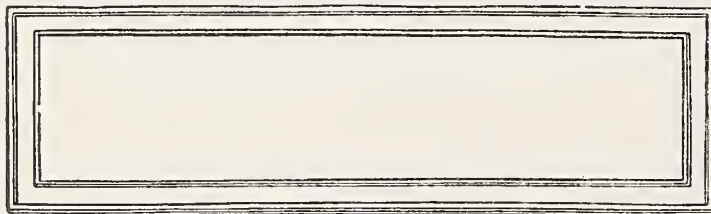
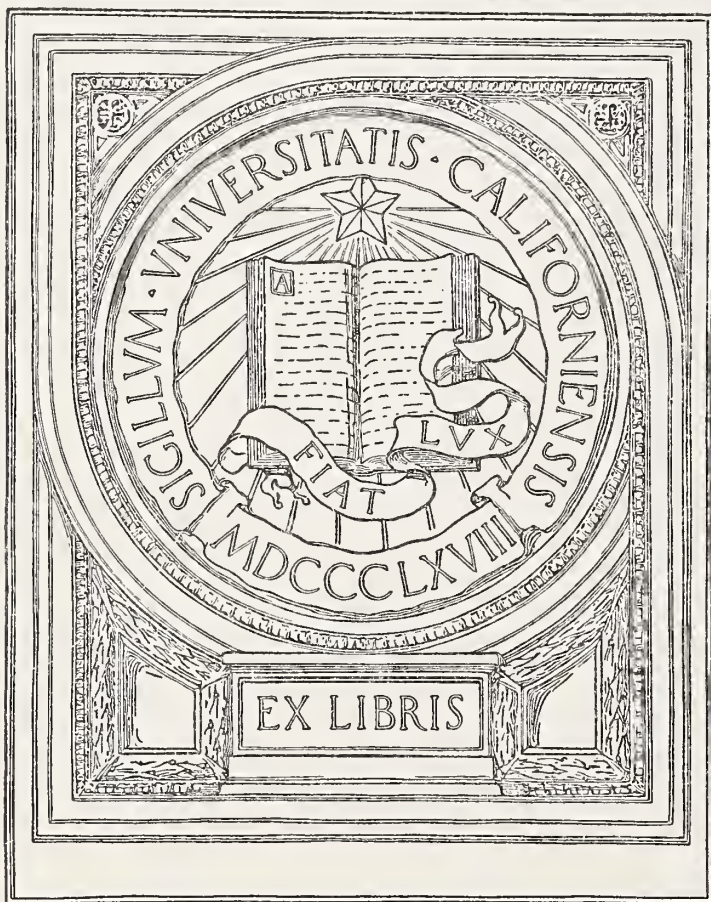
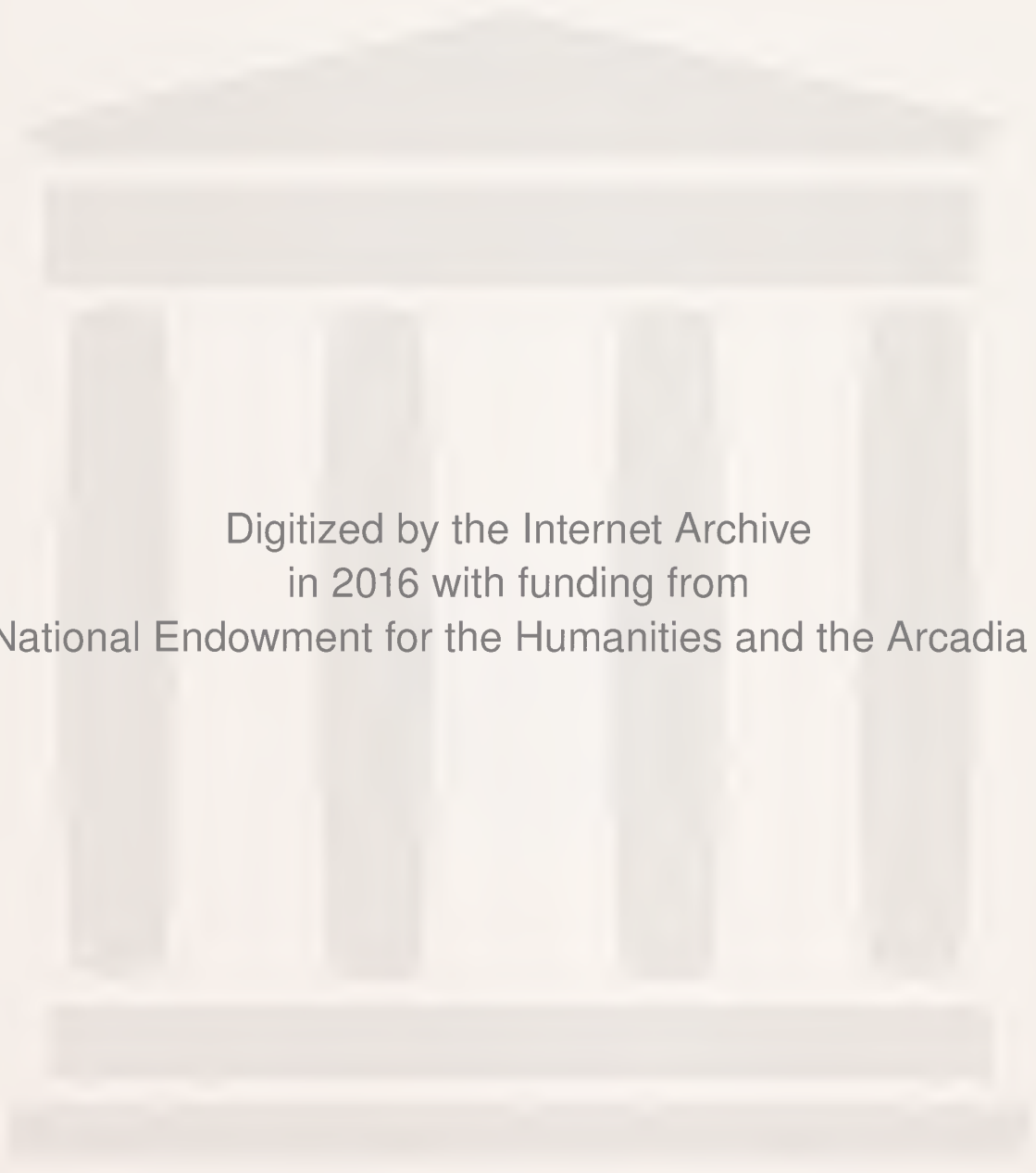


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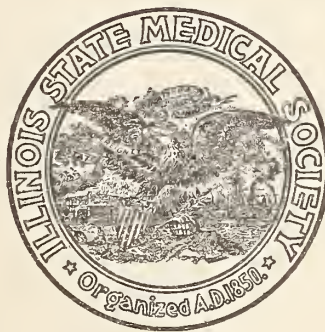
ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

The Illinois State Medical Society

PUBLISHED AT SPRINGFIELD, ILL.

GEORGE N. KREIDER M.D., Editor



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ENTERED AT THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER

VOL. XX

SPRINGFIELD, ILL., JULY, 1911

No. 1

ORIGINAL ARTICLES

THEORY OF VACCINE THERAPY—RESULTS OF THEIR USE *

A. F. STOTTS, M.D.

GALESBURG, ILL.

Treatment of any certain disease by a specific agent or method has but recently come into use. The spirit of research along scientific lines has brought about the establishment of the germ theory, development of knowledge concerning the different degrees of immunity in health and disease, and as a result we now have new methods of specific treatment for certain classes of bacterial infection known as vaccine or bacterin therapy.

Before taking up the essential factors to be considered in the actual application of vaccines, it might be quite in place to say a word about bodily resistance or individual immunity. We have been told that by a condition of immunity is meant "wherein the body is not susceptible to disease," or a definition possibly more satisfactory is "a condition of the body wherein the ability of the tissues to resist the action of the causes of disease is positive." Inasmuch as we have no certain knowledge of just what immunity really is, all definitions of the condition are uncertain, and those advanced are simply theoretical deductions. The more one studies the question of individual immunity which leads from one obscure phase to another and wherein the parent's immunity differs in certain respects from that of his child and in other respects is marked by a striking similarity, brings on us the realization of the abstract truth contained in the Biblical prediction, "the sins of the father shall be visited upon the children unto the third and the fourth generation." The "sins" referred to in this statement, and which are transmitted to posterity, according to the modern interpretation, should include not only the diseases incurred by the parent but also the effects of his habits of eating, drinking, hygienic conditions, occupation and

* Read at a meeting of the Knox County Medical Society, April 20, 1911.

temperament; the influence of each of these factors is reflected in the degree of immunity in direct proportion to the degree present in the antecedents for generations removed.

This peculiar and differing degree of immunity frequently confronts us in cases of chronic infections, a particularly fitting and well-known type being that of the tubercle bacillus, where undoubtedly germ propagation and toxin production has continued for months and years. Many of these infections are overcome by the immunizing factors in the body, and the life of the individual is continued, evidence of which has been abundantly furnished by many recent autopsy reports. Why the germ present in many of these chronic infections is not destroyed when first it invades the organism and in the presence of a high resistance and a corresponding ability to quick opsonic production, is a question that has brought forth many theoretical answers but none proven in fact. Since the beginning of time and the earliest record of medical achievement, we have learned that methods of cure have preceded by centuries the proven explanation for the results obtained. And here again we find history repeating itself and we have in vaccines a cure for certain classes of infections before a proven method of their action has been advanced.

The foundation of the theory that justifies our use of vaccines rests on the opsonic content of the body fluids and the phagocytic power of the leukocyte. The abundant content of the former and the capacity of the latter seemingly makes possible the results seen in vaccine therapy. The opsonic theory of immunity was first advanced in 1883 by Metchnikoff, followed by Denys and LeClef in 1895. In 1903, Sir A. E. Wright of England came forward with the results of a most exhaustive research in which he not only verified the findings announced by Metchnikoff, but also explained that the opsonins or antibodies formed in the body by the injection of dead cultures did not act as a stimulant to the leukocyte as formerly thought, but instead it acts by reducing the vitality of the invading germ, thereby making it an easy victim for ingestion by the leukocyte. This process is known as phagocytosis. Consequently, the phagocytic capacity of the leukocyte is in direct proportion to the amount of opsonins in the body, and this proportion was termed by Wright as the "opsonic index." We also are indebted to him for an exact though complicated method of determining just how much resistance a certain individual may offer against any given germ.

I desire to recount briefly Wright's findings in health and disease as a result of his determinations of the opsonic index. He found that on the injection of killed cultures the index was raised and that the change occurred with considerable regularity. The normal resistance was taken as 1, granted a normal index in the presence of an infection; if the opsonic determination shows the index to be at or above 1, the patient will overcome the infection without assistance; if in the presence of the same degree of infection the index is found below 1, the indication is that the infection will overcome the patient and treatment is indicated.

He further states that in a given case where isolation or recognition of the germ has not been possible, its identity can be determined by carrying out opsonic findings for the different germs and the germ for which the body shows the lowest index should be the one selected for injection.

Based on these conclusions, he claimed that if a definite quantity of the killed germ were injected subcutaneously a stimulation to opsonic production would follow and in the presence of a sufficient degree of vitality recovery would occur. In carrying out these experiments of injecting killed bacteria, he found that in febrile cases the temperature increased during the first few hours following the injection but the index decreased; while at the end of twenty-four hours the temperature would drop below the point registered at the time of injection and the index would rise. This rise was maintained for two to ten days, depending on the germ present and the condition of the patient. The decline of the index or increase of temperature was the indication for another injection.

When one considers the rationale of such theories and methods of treatment, we may reasonably conclude that on its face it would seem to be more properly a prophylactic than a therapeutic measure. The prophylactic effect of vaccinations has been determined with decided success by the medical departments of the British and German Armies against typhoid fever, dysentery and cholera. Since 1908 the medical department of our own government has been using vaccinations especially to prevent typhoid fever.

However, in the actual treatment of an established diseased condition the method does not seem so reasonable, as ordinarily we would not think of injecting more bacteria into an individual already suffering from an invasion of that germ. Experience has shown us that a materially different result follows in localized conditions than in bacteremias. When a condition is localized, it is assumed that the infection is walled off from the rest of the organism by the leukocytic wall and the inflammatory tissue, hence the presence of the invading germ is not felt by the tissues and opsonic production is not excited. Vaccines injected in these conditions immediately stimulate opsonic production in the body juices, and gaining access to the localized infection prepare the bacteria for ingestion by the wall of leukocytes. The favorable reports that have followed the use of vaccines in this class of infections justify the conclusion that the theory is well founded and favorable results may be expected providing the identical germ can be secured and cultured and the corresponding vaccine administered.

In generalized infections, vaccination does not offer us the degree of certainty in results that are obtained in localized conditions, inasmuch as a general bacteremia exists, large numbers of germs are circulating in the blood and one would naturally conclude that opsonic production would follow. Wright, however, contends that the opsonins are formed, not in the blood serum but in the juices of the subcutaneous tissues, and that only when the vaccine is injected into this tissue the opsonins are formed and carried into the blood stream, where it is possible for them

to act on the germs. Wright's explanation of this phenomenon is, I believe, not entirely satisfactory to many observers because his contention has not been sustained by results yet obtained.

Still some writers report excellent results in general infections, especially where the staphylococcus, gonococcus or colon bacillus is present. Deaver reports rapid improvement following vaccinations in seemingly hopeless cases of staphylococcus infections wherein the recoveries were rapid and without complications. Ross, Johnson, Duncan and others report excellent results in erysipelas. One series of fifty cases shows 98 per cent. as satisfactory recoveries. In puerperal infections varying reports have been published, the consensus of opinion seeming to be in favor of vaccinations. In gonococcic infections this method is followed by very favorable reports, especially in the arthritic conditions. Practically all observers agree that in generalized infections good results can only be expected in cases where an autogenous vaccine, preferably from blood-culture, be used, and that its use be at the earliest possible moment.

Localized infections or generalized skin lesions, as boils, carbuncles and other pustular conditions of the integument are controlled in an almost specific manner on the isolation of the germ from the individual case and the use of the corresponding vaccine. However, one does meet cases of this variety where the vaccine acts indifferently; and in these I have secured excellent results in a few refractory cases by using an alternative in the form of sodium cacodylate hypodermically. My results with this drug have been so satisfactory that I now employ it as an adjunct treatment with vaccines in cases presenting a history of great susceptibility to infection or the appearance of a so-called strumous diathesis. It goes without saying that good results can only follow the identification of all germs present in a given infection. In localized infections, specimens of pus taken from several places in the infected area may be placed in sterile culture tubes and sent to a nearby laboratory for identification. In generalized infections or bacteremias a specimen of blood should be sent with the pus specimen. In deciding on whether to use an autogenous or stock vaccine, the condition of the patient and the kind of infection should be considered. A safe general rule for those contemplating vaccine use would be to use autogenous preparations in febrile cases and bacteremias. In all other cases after a culture diagnosis, a fresh stock vaccine of the corresponding germs will usually prove satisfactory.

With this brief discussion of the theories and factors concerned in the application of vaccines, I will pass on to reports of cases representing most of the class of infections for which they have been recommended.

By far the most frequent germ in skin infections is one of the varieties of the staphylococcus. Since July, 1908, at which time I began the use of vaccines, I have completed the treatment of fourteen cases of various skin infections by this method—this germ being alone or predominating in every case. I shall not attempt to describe each of these cases but will state that they included general furunculosis, pustular

acne, subcuticular metastatic abscesses of skin origin, and three chronic skin conditions unclassified. I desire to briefly describe one of the latter class, more especially for the purpose of calling your attention to the possibilities of good results in this class of cases.

This man, aged 34, clerk in an office, had enjoyed fair health all his life, denying specific disease. For the past fifteen years has had an irritable skin condition, diagnosed as chronic eczema. The condition would appear as a discrete vesicular eruption, which dried and scaled, after which a raw itchy condition supervened, that made shaving well nigh impossible. While confined to the face for the the first twelve years it slowly had been spreading for the past three years until the neck and shoulders were becoming involved. Two years ago a few pimples began to appear on his face, and a few months later I first saw him at which time his face was scaly in places and red and moist patches at other parts, with a few small pimples scattered over it. Pus cultures from both boils and vesicles revealed a small staphylococcus. An auto vaccine, dose 500,000,000, given every fifth day. Three months of treatment caused the skin to clear absolutely, and one year after his treatment was finished his skin is as clear as one could wish for, and he states that he has gained in flesh and strength. That the so-called eczematous condition disappeared while under treatment was a most unexpected result to both patient and myself, hence I felt that you might be interested in knowing the history and results in this case.

In colon bacillus infections, especially of the kidney, ureter and bladder, reports seem to assure us that good results may be expected with vaccines. I have used them in two cases.

Both of these cases were treated with a fresh stock vaccine after a culture diagnosis of colon infection. The treatment was rest in bed, liquid diet, and doses of 50,000,000 fresh colon vaccine. The temperature in these cases ranged from 101.2 to 103, and following the first three injections in both cases there was an increase in temperature ranging from 1.3 to 2 degrees. Both cases received ten injections, as follows: 50,000,000 was given every fourth day until there was no temperature reaction, after which 50,000,000 was added to each subsequent dose until the patient was receiving 200,000,000 given once a week. In one case the symptomatic cure is over one year's duration. The other case had two slight attacks of tenesmus and cloudy urine within the first three months following his discharge from treatment, but during the last ten months he reports himself well. Both cases gained in weight since treatment.

As a remedy in gonococcus infections, vaccinations have proved satisfactory in direct proportion to the chronicity of the condition. In joint conditions results have been the best. When the infection is confined in or about the urethra in the male, I cannot say that my results have been complete symptomatic cures, but the results have excelled distinctly those that I have been able to secure by any other method. Our former methods applied in the treatment of these conditions have been both rude and unscientific. The knowledge we have acquired concerning the pathology of gonococcus infections has made it plain that the germs invade the surrounding tissues and pass into the blood stream, even though they are classified as an organism without the power of auto motion. This being true, local measures are illogical as well as unscientific, inasmuch as the degree of infection as well as the recovery of the patient depends upon the resistance offered by the organism at this point of attack. Practically all methods directed toward urethral treatment in

the past have been used at a time when they did more harm than good, reducing the vitality of the local tissue and breaking up the inflammatory wall thrown out by the body to protect itself against a general invasion. When the infection breaks through this inflammatory wall, which usually results after too energetic urethral treatment, we see varying degrees of generalized infections from that of the periurethral region to a general arthritic involvement. The following case belongs to this class:

Male, age 32, farmer, contracted gonorrhea in April, 1908, and for the following two years was practically under continuous treatment, largely directed to the urethra. He applied for treatment in February, 1910, at which time he admitted that he could not do any work and had not done any since he received the infection. An inspection of the urethra showed widespread ulceration as far back as the prostatic urethra. The examination caused considerable bleeding. He had become so nervous that his average sleep amounted to from three to four hours. He suffered a constant burning in the bladder, marked loss of strength and weight, and practically invalidism. Feeling that further treatment directed to the parts affected would only be followed by failure and would simply mean further torture to the patient, I cultured the prostatic secretion and the laboratory report showed gonococcus and colon bacillus. A fresh stock vaccine, each c.c. containing 50,000,000 each of gonococci and colon bacilli, was injected every fifth day for three doses, after which the dose was gradually increased up to 200,000,000 and given weekly for three months. The patient reported marked improvement after the third injection and eight months after the conclusion of treatment he states he is doing as much work as he ever did and has gained ten pounds in weight. I am frank to say that I do not know of any other treatment that would have delivered the result that this man received from the vaccinations. No other treatment of any kind was given him.

I would like to mention another case of more than ordinary interest to show especially that there is an ever-present possibility that the vaginal secretion may not always contain the invading organism. That this may also be true of the male urethral secretion is well known, and a cultured prostatic secretion must be secured before one can feel reasonably sure that all the invading organisms have been secured.

This young woman gave a history of no pelvic symptoms until about one year after her marriage, at which time a slight vaginal discharge and some tenderness was noticed. Six months after these symptoms first appeared she passed through a normal confinement and puerperium. On the fourteenth day she had a chill and went to bed complaining of considerable discomfort in the pelvis. Two days later I found the cul-de-sac filled with fluid and the posterior vaginal wall bulging. A history of chronic gonorrhea in the husband, together with the information that the baby's eyes had been sore after birth, caused me to suspect gonorrheal infection. A culture from the vaginal and cervical secretions did not corroborate my suspicions. However, I did not give up my opinion that this was a gonococcus infection, and administered a fresh stock vaccine of this germ every fourth day. Her temperature reached normal on the thirteenth day after beginning treatment, the bulging cul-de-sac subsided and her recovery was rapid and complete. In all, five doses were given. One year has elapsed since her recovery, and she states that she has had excellent health and has no vaginal discharge or pelvic symptoms of any kind.

Within the last two years favorable reports have appeared concerning treatment of mixed infections with vaccines, especially in tubercular bone disease. Willard and Thomas published an interesting report of a

series of cases and their conclusions seem to justify the use of bacterins and tuberculins as a most valuable accessory measure. This conclusion is at variance with that of other observers, who, after an exhaustive and prolonged test of vaccines in this class of cases have abandoned their use. Contradictory reports of this kind are most unfortunate, and while it will be the hope of the profession that in the near future some definite decision may be arrived at concerning the true status of vaccines in tubercular diseases, still the uncertain action so far shown by conflicting reports should be kept in mind by those inclined to an optimistic view, due possibly to good results in but a few cases.

Personally, my experience with vaccines in this class of cases is small but very favorable. For instance, in a late case of tubercular spine with psoas abscess, where recovery was not to be expected and the patient's comfort the only object sought for, an autogenous vaccine reduced the temperature from 103 degrees to 99 in two weeks, and changed a most miserable patient into one who enjoyed food and sleep and was quite comfortable during the remaining weeks of her life. The fact that a vaccine used in such an advanced case could overcome the associate infection in such a short time is very interesting, and causes one to conjecture what results might have been secured had the same measures been used early. In two other cases where slight temperature variations were present and a subcutaneous tuberculin test was followed by a positive reaction, the use of autovaccines and tuberculin alternately caused the fistulas in both cases to heal progressively and more quickly than by any other method I have yet employed. While my experience with vaccines in tubercular bone diseases has caused me to regard this method very favorably, still I feel that, in view of the contradictory reports from observers of wide experience, great caution should be shown in the selection of proper cases for their use.

One other class of conditions wherein I have found vaccinations beneficial is those of pyorrhea alveolaris. That this disease is one that we have not been giving the attention it deserves is now generally recognized. Further, that an infection of this kind and place is and must necessarily be far reaching is obvious. The routine examination of any patient is not complete until a careful inspection of the oral cavity is made. A word about the bacteriology may not be out of place here, inasmuch as some difference of opinion is in evidence. In recent literature I have noted from time to time that some writers have stated that the germ present is the pneumococcus, one writer stating that he found it present in over 80 per cent. of his cases. This does not agree with the laboratory reports of the cases I have treated. Of the nine cases in which treatment has been completed, eight have contained considerable numbers of staphylococci; two have shown streptococci, while all have had large percentage of diplococcus variable to the Gram stain (not identified). This unidentified diplococcus is no doubt the germ that some writers have called the pneumococcus, but I am informed by the laboratory that because of its heterogenous character, as well as its culture characteristics, they are not justified in calling it the pneumococcus.

I might further say that those who attempt to treat pyorrhea with vaccines should remember that unless the patient is sent to his dentist for the removal of the concretions and a proper degree of burnishing of the tooth surfaces, with thorough instruction on future oral hygiene, the results will not be good. I have also found it advisable to urge that all crown and bridge work in the mouth be removed until after treatment is completed and the gums are healed. Since the bacteriology of this disease has been discovered much light has been thrown on the obscure symptoms of a slow toxemia which is much in evidence in some of these cases. There is little doubt but that this disease is a wide-spread condition, and that a comparatively small percentage of these patients reach the physician for treatment is certain.

CONCLUSIONS

The use of vaccines should only be decided on after a careful consideration of the resistance of the patient and the character of the invading germ.

Wherever possible, autogenous vaccines should be used. If the use of a stock vaccine is contemplated, a culture diagnosis of the infecting germ should first be made, otherwise your treatment will be uncertain.

In surgical conditions drainage should first be established if possible or expedient, and vaccines used as an accessory measure only.

If you use stock vaccines, always see that they are fresh. Those of uncertain age are not dependable.

From a financial point of view, autogenous vaccines are cheaper than the stock, not to mention the satisfaction of knowing that you are using the proper vaccine in the case.

Do not get in a hurry for results. Many have made the mistake of giving the doses too close together. Generally speaking, intervals of four to seven days should elapse between doses.

Failure in results in afebrile cases may usually be accounted for by failure to secure all the germs present in the infection.

Vaccines are not indicated in infections with temperature, unless they are caused by the staphylococcus, gonococcus or colon.

HOOKWORM DISEASE *

MAURICE I. KAPLAN

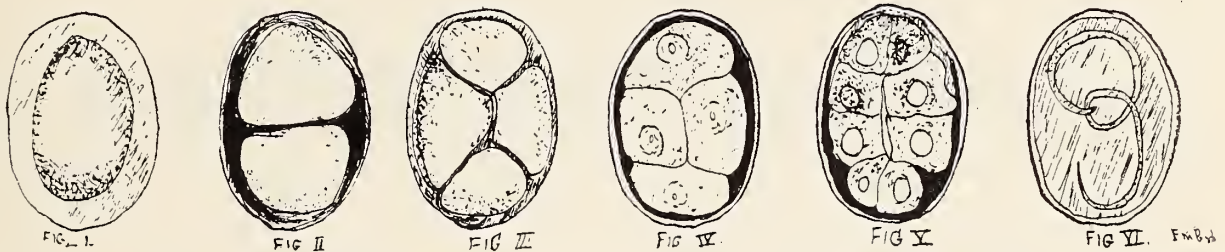
Acting Assistant Surgeon, U. S. Public Health and Marine-Hospital Service
PORT OF CAIRO, ILL.

Gentlemen:—I feel greatly honored in being permitted to present you with a paper. More so that it be on a subject that is yet in its infancy and one that has aroused universal interest.

This being my first attempt to address a body of the medical profession, I sincerely hope that you will be lenient with me in your judgment. I have gotten the data for this paper from service publications.

* Read at the May meeting of the Alexander County Medical Society.

Cause.—Hookworm disease, technically known as uncinariasis, is caused by small round worms, belonging to the subfamily of uncinarianæ. There are different species of worms infecting different animals, such as man, cattle, sheep, dog, swine, seal, etc. Those that live in man, however, do not spend any part of their life cycle in any other animal. There are two distinct species that live in man, namely, the Old World and the New World worm. The former is very seldom met with here, except in the case of foreigners. The New World worm of *Uncinarius Americanus* is of interest to us because of its prevalence in our Southern



Figs. 1 to 6.—Various stages of egg of the hookworm (*Uncinaria Americana*—*Nicator Americanus*). Natural size of egg, 50-60 microns long and about 30-40 microns wide; specific gravity, about 1,050 to 1,100. Figs. 3 to 5.—The stages usually found in feces. Fig. 6.—Embryo still in egg.

States. This worm is about $\frac{1}{2}$ inch long and about the thickness of an ordinary hair pin. In its adult stage the parasite thrives in the upper part of the small intestine (occasionally found in the stomach). The hookworm attaches itself to the intestinal wall by means of lancet-shaped teeth, wounds the mucosa, sucks the blood, destroys the epithelium, and it is thought by some that it liberates a toxin that injures the host.

Life History.—The adult hookworms mate in the intestine, the female depositing a very large number of eggs. The eggs, however, do not develop into adults in the intestines but are passed out with the

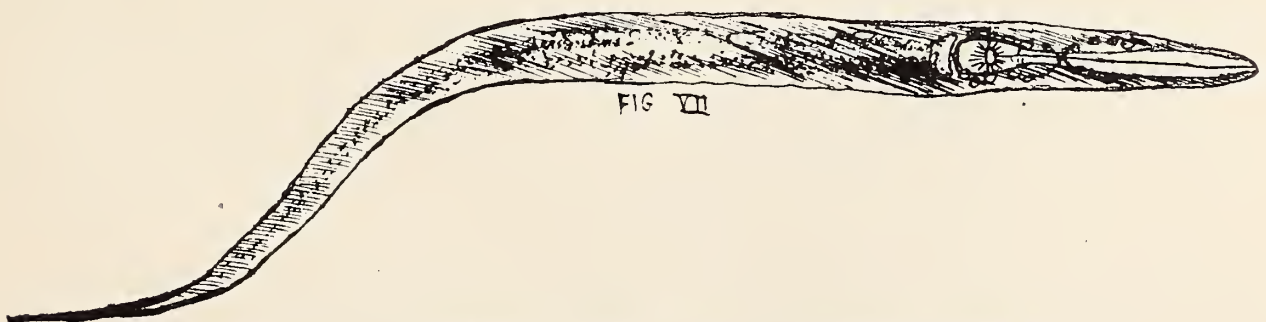


Fig. 7.—The hookworm embryo after it has hatched from egg.

feces. This fact proves that every adult worm in the intestine means a separate and distinct infection with a separate and distinct parasite.

After a short time, depending on the condition of heat and moisture, a tiny embryo develops in each egg. The embryo breaks through the shell and feeds on the ground or feces. In a few days the embryo sheds its skin and continues to feed. In a short time the larva gets a new skin but this time remains in the discarded skin and feeds no more. This stage of the worm is known as the infective or the "encysted stage." It is now ready to infect man, which it does either by mouth or through

the skin. It was at one time thought that the mouth was the only port of entry, but this is now proven to be an erroneous idea, for experimental infection has been successfully accomplished through the skin.

If in the infective stage the worm gets on the skin of persons who handle dirt or on the skin of persons who walk barefooted in polluted soil, it bores its way through the hair follicles, leaving the old sheath-like skin behind. It now starts on its passage to the intestine. It may enter the blood, reach the heart, filter through the lungs, crawl up the trachea, down the esophagus, through the stomach and finally reach the intestines. Here the worm sheds its skin two more times, becomes adult and mates.

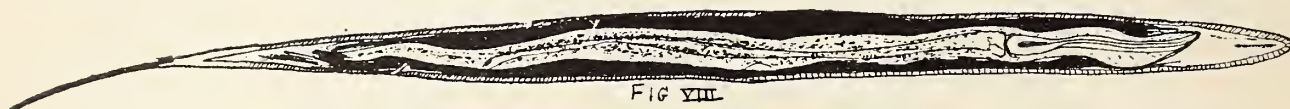


Fig. 8.—The “encysted stage,” the stage which enters man.

Symptoms.—Two distinct stages are recognized in hookworm disease; in repeated infections both stages may be present at one time. The stages are the cutaneous and the intestinal.

Cutaneous: The larvæ as mentioned before may gain entrance to the body either through the mouth or by way of the skin. When they enter through the skin they cause the condition known in the South as the “ground itch,” dew itch, foot itch, etc. It is true that each case of ground itch does not mean hookworm infection, but it has been found that about 85 per cent. of hookworm cases gave a history of ground itch. The parasite causing the Cochin China diarrhea may sometimes cause the ground itch, but is not productive of hookworm symptoms.

Intestinal Stage: The larvæ wander from the skin to the intestines. The effect on the patient varies, as do the effects of any other infection, depending on the condition of the patient, the intensity of the infection and other conditions not yet found out. The dirt eater represents

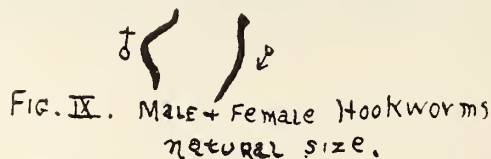


Fig. 9.—Male and female hookworms, natural size.

the extreme case of uncinariasis. The symptoms of this disease are more or less constant and similar; in some cases more marked than in others. The patient, if infected before puberty, is retarded in his development, both physical and mental, and shows a more or less extreme anemia. A person of 21 years may appear as one of 14 or 18.

Skin: The skin in general is more or less dry, scaly and the absence of perspiration is very noticeable. The color may be waxy white or a dirty yellow hue, due to its transparency especially on the forehead and near the alæ of the nose, some describe it as tallow-like.

Hair: The hair is dry and scanty. The beard, axilla and the pubic hairs may be late or scanty in growth.

Face: The face has an anxious and oftentimes a stupid expression. The visible mucous membranes may be pale or sometimes of a chalky white appearance. The pupils are dilated or show a tendency to dilatation even when facing a strong light. Night blindness has been reported.

Neck: Cervical pulsation is frequently very prominent, even at a distance.

Thorax: Emaciation is usually present; the ribs are prominent. The scapulæ stand out, sometimes the observer can place his hand below the median margins, due to the winged condition of the scapulæ.

Abdomen: In most cases the abdomen is much swollen, so much at times that one may mistake it for pregnancy. This condition is known in the South as "pot belly" or "shad belly." Edema may be present in the face, body or limbs. Wounds or ulcers are very slow in healing; these are sometimes mistaken for luetic or tubercular.

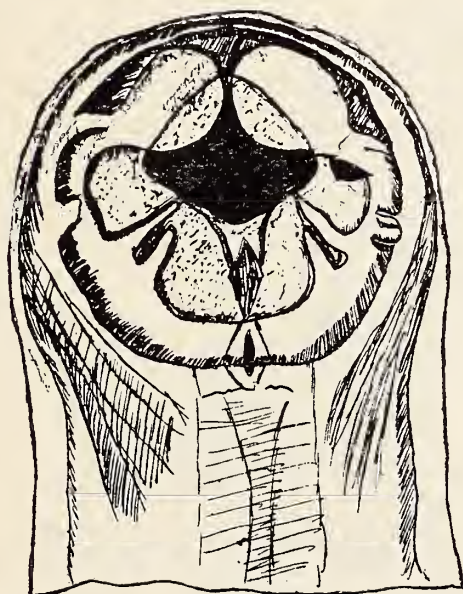


FIGURE X.

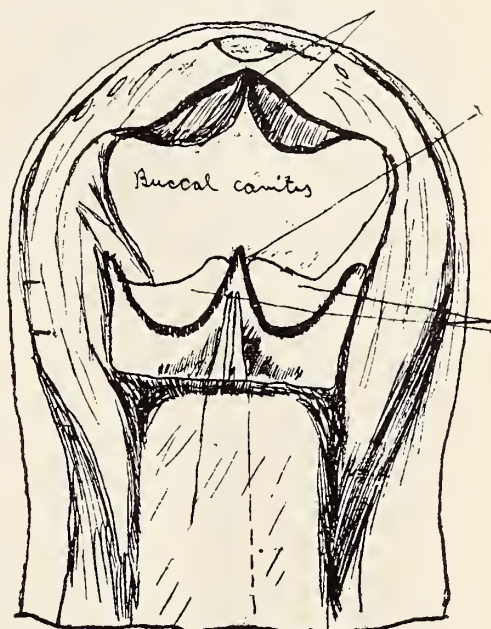


FIGURE XI

Figs. 10 and 11.—Head of hookworm, greatly enlarged. Fig. 10 is a greatly enlarged view of head. The upper quadrangular structure represents the mouth; just below are seen four cutting plates, or jaws, arranged in pairs and usually called lips, by means of which the worm attaches to the lining of intestine. In the median line is a conical tooth-like projection on the summit of which a gland opens. Fig. 11 is the same view, but slightly deeper plane, showing buccal cavity, one pair of plates and the "dorso-median tooth" stand out very prominently. At the side of this "tooth" is seen a pair of lancets.

Digestive System: The appetite varies. Many develop a craving for unusual articles of diet, such as pickles, lemons, coffee, etc. In some severe cases the patients crave for plaster, clay, wood, sand, cotton, wool, etc. One case is cited of a boy who ate three coats thread by thread in one year's time. Many parents teach their children to dip snuff to prevent them from becoming pale. The stomach is enlarged, heartburn and flatulency are common. Pain and tenderness in the epigastrium are almost pathognomonic of hookworm. The tenderness is most marked during inspiration; it is median and continues to the right side.

Constipation is so very common in some hookworm localities that this disease is sometimes called "constipation." Diarrhœa may, however, be present.

Circulatory System: The apex beat is pronounced and hypertrophy, especially of the left ventricle, is common. Hemic murmurs are usually present. Palpitation is an early symptom. The pulse varies, may become dicrotic in severe cases.

Blood: Anemia occurs very early, the hemoglobin may drop to 40 or even 30 per cent. The number of red cells falls to about 750,000; poikilocytosis is evident. Leukopenia may be present in later stages. Little or no eosinophilia may be present in advanced cases. Eosinophilia is regarded by some as a good omen.

Respiratory System: The patient may complain of dyspnea.

Temperature: Remains normal or may rise to 100 or 102 F.



Fig. 12.—An old privy, showing how soil pollution occurs. Many a score of farms have such a pitiable-looking privy.

Nervous System: Mental lassitude, headache and dizziness are frequently noticed. The effect on the mind varies. Children at school are backward in their classes.

Reflexes: The patellar may be diminished or absent. Insomnia or insomnolence may be marked.

Muscular System: The muscles are very flabby and patients are easily fatigued, therefore they often gain the reputation of being lazy.

Urinary System: The urine is usually neutral or slightly alkaline; seldom acid. The amount is increased and the specific gravity lowered.

Genital System: As a rule there are marked changes. The menses are delayed in girls sometimes to the twenty-sixth year. Abortion and miscarriages are very common. Sterility and impotence are reported to be frequent.

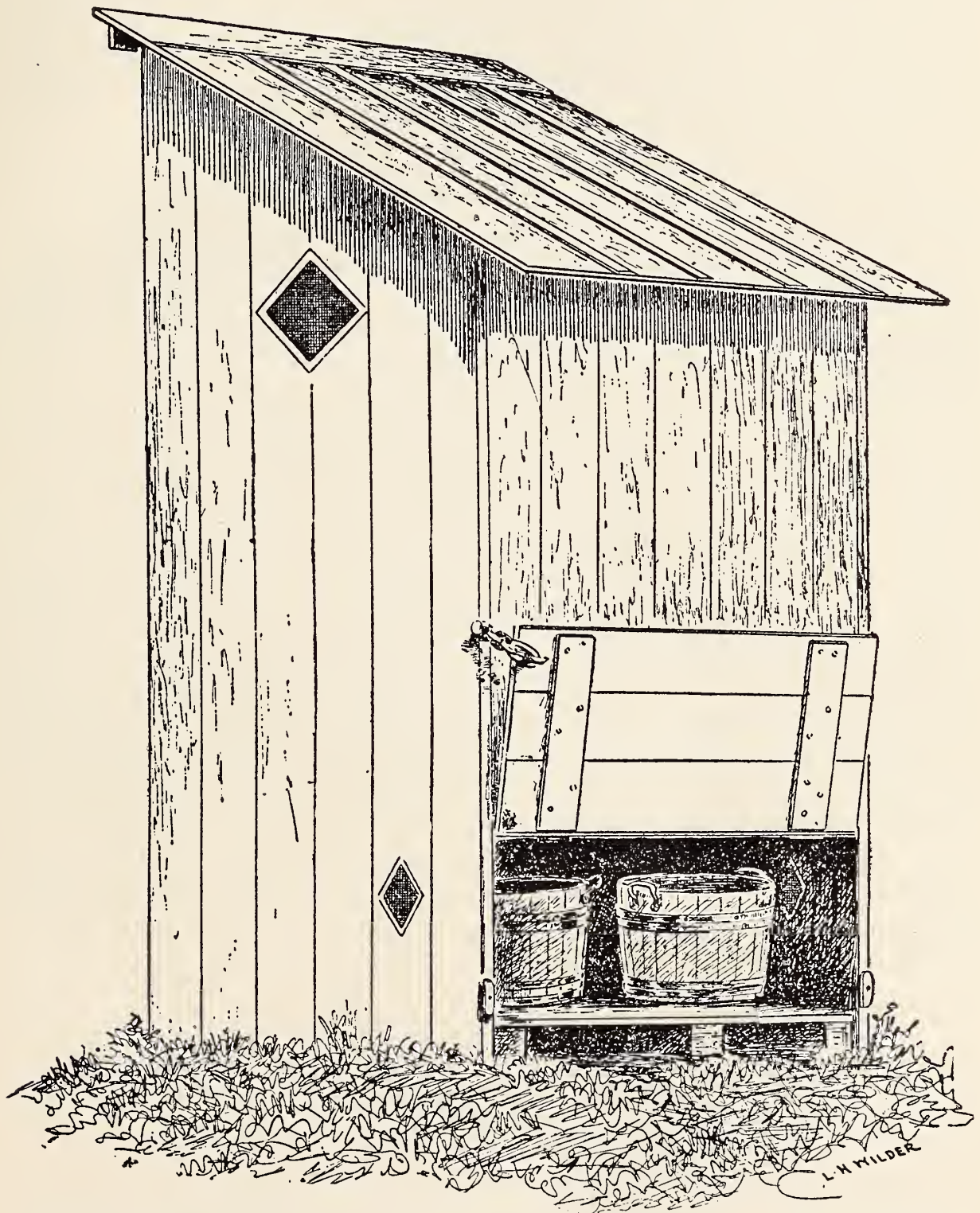


Fig. 13.—View of a floor privy. Tub system: An antiseptic may be put into tubs before emptying.

Diagnosis.—This can be made by either of the following methods. Microscopic examination of the feces and finding the eggs; by judging from the symptoms and by experimental treatment, and by finding the worms in the stools. It is rare that the worms are found in the stools except in cases that are under treatment. By finding the eggs, the diagnosis is positive.

Ordinary Technic: Take on a toothpick a small portion of the stool in question and spread on a slide containing a drop of water (in hot weather a drop of lysol), put on cover-glass and examine with a low-power lens. The egg is usually found in the four- or eight-cell stage. If in fresh specimen a thirty-two-cell stage is found, very likely another worm is present, or if embryos are found in all probability the Cochin-China parasite is present. If a stool cannot be obtained to examine with the microscope, then this is the plan to pursue: Give an experimental treatment and look for the worms in the stool.

Treatment.—The fundamental principle in treating this disease is similar to that of the treatment of any other parasitic disease; first treat the parasite, then treat the patient. Although hookworm disease may occur in any walk of life, it is more prevalent among the poorer classes, who cannot afford losing time from work to undergo treatment. Therefore, the following plan has been adopted by many physicians: that is, the Saturday evening and Sunday treatment.

On Saturday evening give a large dose of magnesium sulphate for this reason: the worms are covered with mucus and the drug will not reach them unless this covering is removed. Instruct the patient to lie on the right side before and for an hour after giving the drug. This is done because these patients usually have enlarged stomachs and by lying on the right side gravity aids in passing the drug into the intestines. Give the first half of the dose of thymol at 6 a. m., the other half at 8, and follow with a dose of epsom salts at 10.

Instruct patient not to eat anything until after 10 o'clock. Above all else, tell patient not to eat or drink any *oils* or *fats*, such as milk or butter. Also not to drink any alcoholic drinks, not even the patent medicines (because of the alcohol they contain). Thymol poisoning has been recorded after the patient drank a swallow of milk.

Thymol.—The dose of thymol depends on the *apparent* age of the patient; not on his real age. The following table has been recommended by many:

	Grains.
Under 5 years.....	7.5
From 5 to 9 years.....	15
From 10 to 14 years.....	30
From 15 to 19 years.....	45
From 20 to 59 years.....	60
Over 60 years.....	30 to 45

Repeat thymol until the worms are no longer found in the stools.

Distribution.—Hookworm disease in man is a tropical and subtropical malady. In the United States, the Ohio river forms the northern limit of endemic infection. Occasionally cases are found in the North, but in these cases a history can be obtained of the patient having come from an infected locality. Instances have been cited where infection has occurred in mines.

Soil: Hookworms thrive much better in loose soils, as sand, than in hard soils, as clay; that is, taking the density of population and the climate into consideration. Hookworm disease is mostly met with in

rural districts or among persons who have recently lived in the country. In cities where the sewer connections are good and drainage is perfect, hookworm disease is not encountered.

In the rural South it is a very common disease, due to the insanitary methods adopted in disposing of the night soil. It has been found that in highly infected areas there are over 50 per cent. of the farmhouses and almost as many churches and schools that have no privies. The feces are naturally discharged in these localities on the surface. Here the hookworm thrives and makes the chances for infection very great.

An authority on this disease ventures to say that over 30 per cent. of the inhabitants of the rural South are infected with hookworm. This disease has been found among students at the colleges. The Army has published statistics in regard to the prevalence of hookworm among soldiers who were sufficiently able-bodied to pass the physical examination for enlistment. Dr. Siler reports 85 per cent. of infection in 140 Southern recruits examined at Fort Slocum, N. Y. In another case twenty-nine out of forty-three examined had the infection.

The Prevention of Hookworm.—At the present era, preventive medicine is of more importance and interest to the doctor than in days of old. In bygone days the physicians limited themselves to treating diseases and left prophylaxis out entirely. The prophylaxis in the hookworm disease is the most important part of the treatment, both to the patient and to the community in which the patient resides. In combating with this disease, typhoid is also incidently fought against. Hookworm disease is without any question of doubt spread through the careless disposal of the stools and, I venture to say, by no other means. In the rural South, and for that matter even here in the city of Cairo, sewer connections are almost nil in certain sections of the town. To me it is an enigma that hookworm is not present here. You can see scores of privies here in Cairo that are very poorly fitted up. In the low places the privies are two storied, the feces are dropped on the surface, the chickens scratch about in the filth and the children run barefooted in the polluted soil. When the river is high these places are flooded and the feces scattered about over a large area. Now just imagine a hookworm-infected patient using one of these privies; how many cases of uncinariasis will you have here in the course of a few months?

In the rural South the feces are usually deposited on the surface and the night soil is even used as a fertilizer. Do you wonder why hookworm is so prevalent?

Privies can be made in a sanitary way even where sewer connections are not available. Dig a hole and build a privy over it. When the hole is nearly filled put an antiseptic cover over with dirt and build another. Or have a floor and place a bucket or tub to receive the stools and put in an antiseptic before the tub is emptied. Bury the feces in the ground. Never use it as a fertilizer.

Cairo is very near the hookworm districts. Many travelers come, especially negroes, on the boats and although I have never seen a hook-

worm case among them, some may be affected that never come to the hospital for treatment. Do not wait until it is too late; do not wait to close your stable door after the horse has gotten out. Make or rather have laws enforced regarding sanitary privies. Are you not aware of the fact that flies are carriers of typhoid? Well these privies here in Cairo are not fly-proof. Do you see the danger that you yourselves are in? Follow the old business maxim, "Do it now." You physicians should act as educators and teachers of the laity; tell them of the dangers they are exposed to and arouse a general interest in the people for better sanitation.

THE BEHAVIOR, SYMPTOMS AND DIAGNOSIS OF OVARIAN TUMORS IN THE NON-PREGNANT AND PREGNANT *

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CHICAGO

In considering ovarian tumors, we must not forget the liability to displacement downwards of sub-diaphragmatic (intra- and retro-peritoneal) organs as well as the formation of both small and very large tumors from these organs, and from other organs and viscera within the abdominal cavity, e. g., wandering spleen is occasionally dislocated as low as the true pelvis, and if cystic degenerated, as in Magdalaine's case, can easily lead to error. As on the left, so on the right side emphysema, pleuritic, or sub-diaphragmatic exudates, or stretching of the suspensory hepatic ligament (the latter especially in old multiparæ), may cause wandering and downward dislocation of the liver, and also the gall-bladder with its proneness to hydrops and empyema and the adhesions which interfere with its mobility, both respiratory and passive. The kidney and supra-renal capsule (especially on the right side) in multiparæ with slack meso-nephron is often markedly dislocated downwards, sometimes as low as the true pelvis, as well as having a liability to hydronephrosis and tumor formation. Other rarer abdominal tumors might also be mentioned.

The ovary, par-ovarium, uterus and tubes, being the pelvic organs from which the majority of pelvic tumors arise, also demand careful differentiation. Uterine fibromata (unless cystic) are usually harder and more closely attached to the uterus and irregular in shape. Tubal and tubo-ovarian inflammatory enlargements, especially if chronic, may be very like ovarian tumors. We must differentiate seven conditions: 1. Displacements. 2. Pregnancy both intra-uterine and extra-uterine. 3. Enlargements due to acute or sub-acute inflammatory processes. 4. Enlargements due to the infective granulomata. 5. Enlargements due

* Read at the meeting of the Chicago Medical Society, April 26, 1911.

to retention cysts and, 6. The true neoplasms or tumors, which latter have the only right to the ending "oma" technically; yet be it what its character may, the first point of importance is its site and organ of origin, its exact character frequently having to be left to postoperative microscopic decision, which should never be neglected, however typically it may appear. 7. Whether the tumor is or is not accompanied by pregnancy.

THE BEHAVIOR OF OVARIAN TUMORS

This varies much, so that it can only be by a detailed knowledge of this behavior that the symptoms and physical signs can be recognized and a diagnosis made before, as well as a correct understanding of the conditions found during the operation, so necessary to its successful performance. The important points to consider are:

1. *The relation of the ovarian tumor during its development to the broad ligament*, viz., as to whether it is, (a) extra-peritoneal (intra-ligamentous), (b) pseudo-intra-ligamentous (Pawlik), (c) intra-peritoneal.

(a) *In the extra-peritoneal (intra-ligamentous) ovarian tumors*, perhaps due to a congenital mal-position of the base of the ovary (being more intra-ligamentous than normal, Freund), or possibly from the neoplasm developing in the normally intra-ligamentous portion. The growing intra-ligamentous tumor spreads the mes-ovarium and gradually enlarges between the two leaves of the broad ligament. The direction of growth differs according to the side of the pelvis and site in the ovary of its origin. Most often, perhaps, the tumor develops inwards, towards the lateral border of the corpus uteri and lies between the leaves of the broad ligament so that the peritoneum from the anterior and posterior surface of the uterus extends immediately onto the tumor, which may later enlarge upwards and outwards and spreading the meso-salpinx, lie close to the stretched tubal musculature above and the pelvic bones laterally, and downwards in the para-metrium and para-cervix, and even down between the vagina and rectum. Continued growth of such an intra-ligamentous tumor when the pelvis is filled is most likely to cause it to protrude in the direction of least resistance, viz., further upwards into the abdominal cavity covered by the broad ligament peritoneum, sometimes dragging the uterus up with it. (If much resistance is encountered in the extension downwards the tumor may, though intra-ligamentous, occasionally grow upwards very early, and gradually rise out of the pelvis stretching and narrowing the broad ligament into a pedicle so that at the time of operation it may appear at first sight like a pedunculated intra-peritoneal tumor.) In other cases the tumor growth may be outward to one side or the other.

If from the left ovary, it may grow upwards and outwards under the sigmoid, spreading its mesentery and lie retro-peritoneally in immediate contact with the posterior surface of the bowel musculature itself, as in one case operated in consultation with Dr. A. M. Bishop.

If from the right, it can grow under the peritoneum into Korte's space, so that the tumor lies retro-peritoneal (para-typhlitic) in contact with the cecum and vermiform appendix musculosa.

Less often growth directly posteriorly occurs by raising up the posterior leaf of the broad ligament, and pushing under the peritoneum of Douglas' sac so that the tumor may lie (retro-peritoneal) next to the sacrum.

Finding an intact and even normal appearing ovary on one side is not conclusive evidence that that was not the side of development, for the tumor may have had its origin in an intra-ligamentous accessory or supernumerary ovary. In all retro-peritoneal tumors, tongues of tumor may extend in any direction. Irregularities of development must always be thought of. The removal of an intra-ligamentous tumor necessitates a very intimate knowledge of the entire visceral and retro-peritoneal, parietal and pelvic floor anatomy in order that the operator may preserve intact displaced and distorted structures essential to life, e. g., the ureters and large blood vessels, which may not only be close to the retro-peritoneal tumor but indeed may be intimately adherent to or actually included in it.

Anterior extension of an ovarian tumor under the anterior leaf of the broad ligament, and utero-vesical cul-de-sac and vesical peritoneum so that it lies in contact with the bladder musculature or in the cavum Retzii under the anterior abdominal wall is rare.

(b) *Pseudo-intra-ligamentous (Pawlik)*, i. e., where the raised peritoneal covering of the extra-peritoneal portion of a mostly intra-peritoneal tumor is adherent to the parietal peritoneum, thereby approximating the anterior and posterior surfaces, e. g., of Douglas' sac. Operations for these are naturally very difficult if the adhesions are old and firm, demanding extensive plastic work to avoid leaving raw surfaces. The behavior of both the intra-ligamentous and pseudo-intra-ligamentous ovarian tumors accentuates the necessity of an early diagnosis and early operation.

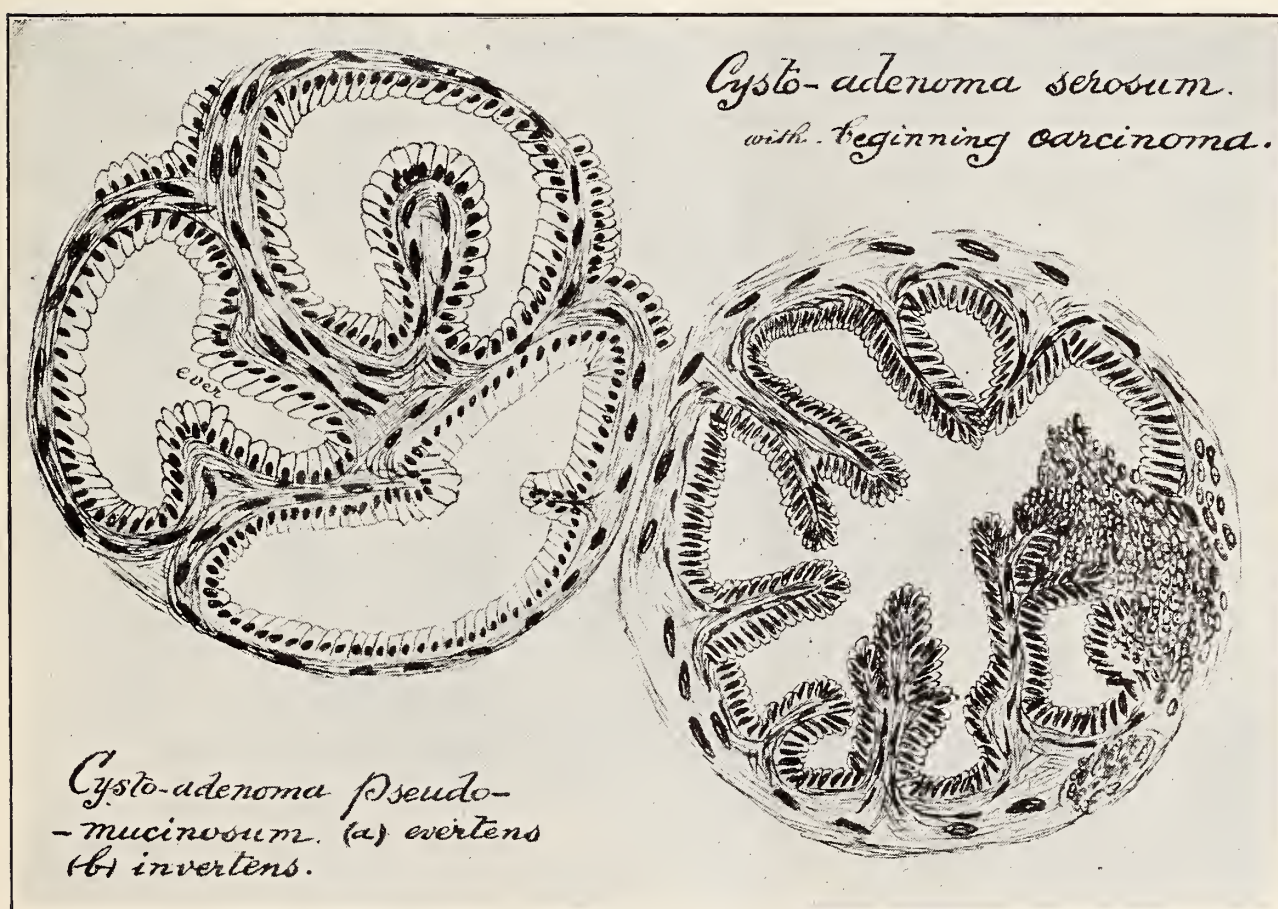
(c) *The intra-peritoneal ovarian tumor*, the most frequent type, lies free in the peritoneal cavity, attached to the uterus by a pedicle composed of an almost transparently thin or thick (often edematous) band.

It may be either slender, composed solely of (a) the ovarian ligament and (b) the ala vesperilionis (dividing it from the (approximately) normal-sized free tube); but as the technically intra-peritoneal ovarium tumors are also usually more or less intra-ligamentous at their base, some spreading of the meso-salpingium frequently occurs; therefore, (c) the tube also is often intimately united with the intra-peritoneal tumor and both thickened and elongated, i. e., the tube and ovarian ligament with the inter-lying ala (enclosing the arteries, veins, lymphatics, nerves and connective tissue) usually compose the entire tumor pedicle. The free edge of the ala passes outwards to form the infundibulo-pelvic ligament, while the tumor, if small, moored by its pedicle to the uterus and broad ligament, lies in the true pelvis, or if large, above the pelvic brim in the false pelvis and abdominal cavity.

The length of the pedicle varies; it may be short especially in solid tumors, so that the distance between the uterus and tumor is scarce a finger breadth, as occurred in an eighth-month-pregnancy-sized ovarian fibroma and another of bilateral solid sarcomata, while in a fetal-head-sized cystoma it was nearly 15 cm. in length.

2. *The nourishment of the ovarian tumor is:* (a) By the pedicle vessels. (b) The adhesions vessels also supply nourishment.

3. *Torsion of the pedicle or axis twisting*, is especially liable in pedunculated tumors. Less so in non-pedunculated and adherent tumors. Both the extra-peritoneal tumor (that by early growing upwards becomes pedunculated) as well as the intra-peritoneal pedunculated tumors, may become adherent. Adhesions frequently lengthen and allow of torsion. Torsion probably occurs to a slight extent (one-quarter to one-half a



The two most common cysto-adenomata; drawn by the author from actual slides.

turn—Freund), in every pedunculated pelvic tumor as the tumor enlarges and rises from out of the true pelvis into the abdominal cavity, much as does the pregnant uterus.

Thin pedicles allow of torsion more easily than thick rigid ones. A rapid increase of development on one side of the tumor, and none or only a slow development on the other would tend to tilt the tumor toward the lighter side, thereby causing an increased axis twisting of the pedicle (Hofmeier). As many as sixfold twists have been seen. It is most common in multiparæ with rachitic pelves and slack pendulous abdominal walls. Sudden changes in position made by the patient while lying, and rough bi-manual pelvic examinations; or possibly the rising

of a concomitantly pregnant uterus out of the pelvis are considered as liable to cause it. Oleshausen saw torsion in over 5 per cent. It varies in its effect according to whether it is gradual or rapid.

(a) Gradual torsion of an ovarian tumor may occur to such a degree only as to cause narrowing of the large thin-walled pedicle veins, with venous engorgement only; or intra-mural and intra-cystoma hemorrhage may occur, with distention and rapid increase in size or rupture of either the inner partitions, or indeed the outer walls of some of the thinner loculi, with more or less irritation of the peritoneum resulting in additional adhesions of the cystoma (outer) surface or rupture edges to the adjacent omental and peritoneal (visceral or parietal) surfaces.

If the torsion slowly increases, the pedicle arteries may also gradually become narrowed, while new adhesions' vessels penetrate and help nourish the tumor. Indeed, the arterial vessels of the pedicle may become entirely obliterated, and the whole nourishment (and in some cases even continued growth) be from the new adhesions' vessels (especially the large vessels of the omentum) or lessening in size of the tumor can occur, sometimes with deposits of lime salts in the more poorly nourished tumor tissues.

(b) Quick (obliterative) torsion of the pedicle of a non-adherent tumor, with sudden shutting off of the entire arterial blood-supply, if too rapid for adhesions to form of sufficient vascularity to nourish the tumor, is followed by necrosis of the tumor, and peritonitis (ileus), and death may result unless the operative interference be prompt.

4. *Hemorrhage* (spontaneous) especially in cystomata (independent of torsion) occasionally occurs, either intra-cystoma or intra-mural, or indeed intra-peritoneal if the blood-pressure be unduly raised and the walls of the blood-vessels are thin. This is said to be most frequent during the pre-menstrual congestion, especially in the papillary tumors.

5. *The rupture of cysts and cystomata* and discharge of the contents into the peritoneal cavity may be spontaneous or due to intra-cystoma hemorrhage or traumata per vagina, e. g., coitus or bi-manual examination if still intra-pelvic. If risen into the abdominal cavity, traumata on the abdominal wall may cause it.

(a) Small Graafian follicle and corpus luteum retention cysts (hydrops folliculi et corpus lutei) undoubtedly rupture very frequently and often entirely without symptoms. The larger retention cyst-rupture may, however, be followed by more or less shock and peritonitic irritation, resorption and excretion of the fluid, and recovery.

(b) Cysto-adenoma pseudo-mucinosum rupturing and discharging their pseudo mucinous contents into the peritoneal cavity may cause peritonitic irritation and adhesions, especially to the raw edges with resorption of intra-peritoneal cystoma-fluid and recovery.

(c) In certain cases of rupture of tumors of a pseudo-myxomatous character the cells of the tumor may engraft themselves on the peritoneal surface and reproduce a myxomatous-like substance that may after months or years fill the entire abdominal cavity (pseudo-myxoma peritonei) which may continue even after the removal of the ovarian

tumor, necessitating repeated operations at intervals for its removal. (A plea for removing ovarian cystomata whole whenever possible, even though apparently innocent, by enlarging the incision if necessary rather than reducing the tumor size by the use of the trocar and thereby allowing fluid contents of an unknown character to spill into the abdominal cavity.)

(d) Rupture of the cysto-adenoma serosum is still more serious; the tumor cells engraft themselves on and invade the peritoneal surface and multiply and cause papillary growths and early ascites. These,



Intraperitoneal pedunculated cystoma ovarii risen into abdominal cavity.

however, occasionally disappear after the removal of the original ovarian tumor. This tumor, however, is especially prone to undergo carcinomatous degeneration. It is often bilateral or the apparently healthy ovary may be implicated later.

(e) Dermoids rupturing may cause shock, diffuse peritonitis and death, unless the escaped hair and material becomes circumscribed by adhesions.

(f) Rupture of suppurating cystomata may occur, leading to a rapid diffuse lethal peritonitis if the escape of pus be rapid, or if very gradual it may become circumscribed.

(g) Rupture of a cystoma into the hollow organs to which it is adherent can occur, and discharge of the cyst contents most often into the adherent gut, or into the urinary bladder, and evacuation.

6. *Adhesions.* (a) In the smaller intra-pelvic tumors (excepting the dermoids and serous) adhesions are comparatively infrequent in the absence of acute or chronic inflammatory processes. (b) In the larger intra-abdominal tumors one frequently encounters many and often firm adhesions; to the omentum edge or a larger surface by the convex upper anterior or posterior surface of the tumor; which is also often adherent to the adjacent intestinal loops or mesentery and other viscera, as well as to the anterior, and sometimes posterior, parietal and pelvic peritoneum. Adhesions may be either loose (if recent) or very firm, long and vascular, especially if of long standing. Old firm adhesions both lengthen the operation and may cause tearing of the bowel or make the leaving of raw peritoneal surfaces unavoidable. These raw, thin surfaces and often the inevitable oozing of blood make a splendid atrium, nidus and media for peritonitis, or at least adhesions between the viscera and perhaps later obstructive ileus, again demanding operative intervention. In one case in Cook County Hospital reoperated on by the writer for obstruction, three weeks after the primary operation, a loop of the ileum was tightly wedged between the uterus and sacrum, the adhesions being peculiarly rigid despite the primary intention healing after the first operation.

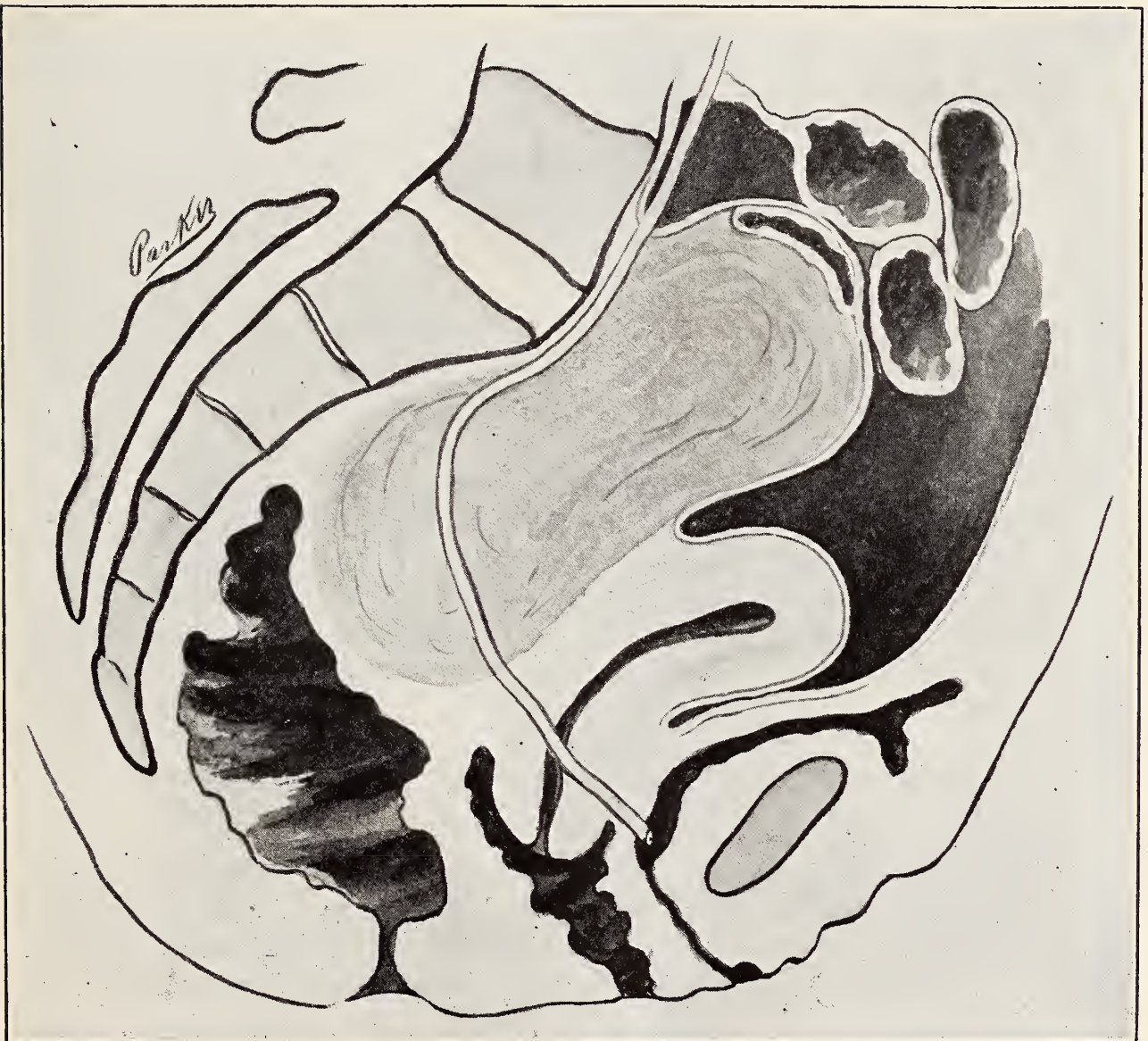
7. *Inflammation of cystomata* may occur (a) spontaneously: It is comparatively rare in the free tumor but more usually following; (b) torsion and adhesions; infection and suppuration gaining access through, e. g., the adherent gut-wall, or from the tube, or by metastasis via the lymphatics or blood-vessels from some other point of infection in the body. It was much more frequent formerly, following diagnostic puncture. It must also be borne in mind that the thicker parts of the cystoma-wall may still contain Graafian follicles and that ripening and ovulation can occur, making an atrium for the entrance of infection. Dermoids, consequent on the frequency with which they contract adhesions, are said to frequently suppurate. While assisting the late Dr. Fernand Henrotin, we operated an ovarian cystoma which contained 1,000 c.c. of pus, the tumor walls were of fibroid consistency, and there were but few adhesions. This patient had been treated for weeks for malaria.

8. *The malignant ovarian tumors*, endothelioma, sarcoma or carcinomatous degenerated cystoma or teratoma are noted for four conditions: (a) The early effect on the general health; (b) The presence of ascites in small or moderate-sized pelvic tumors, whether cystic or solid, should always lead one to suspect malignancy and make a careful microscopic examination, no matter how innocent the tumor may appear macroscopically; (c) The formation of metastatic growths on the peritoneum, or

in the retro-peritoneal lymphatic glands or the omental lymphatics; (d) Metastases in distant organs via the pedicle or adhesions, (e) Malignancy may set in at any time in any benign tumor.

9. *The rate of growth and size of ovarian tumors.*

The papillary (serous) cystomata are often bi-lateral, seldom reaching a man's head size and usually occur later in life. If some malignant tumors grow comparatively slowly they yet usually grow quicker than the benign and the more rapidly the more malignant are they liable to be, but the subjective symptoms being more marked, usually lead to an earlier diagnosis and operation.



Intra-ligamentous (extra-peritoneal) cystoma showing position of ureter and relation of cystoma to peritoneum of cul-de-sac, posterior parietes, intestines and uterus.

Dermoids occur in young people and often remain stationary for years and rarely grow larger than does the papillary tumor and are usually unilateral, but may be bilateral or even multiple, and are said to grow the slowest of all benign tumors. Dr. Carl Wagner of Chicago, having removed a large dermoid, made an incision into the other apparently normal ovary when through the incision there protruded a hair revealing a very small dermoid.

The pseudo-mucinous ovarian benign cystoma often grow to enormous size, pushing up the stomach and intestines, which latter are often much reduced in size and often crowded close under the stomach and liver and posteriorly like a mass of ribbons. This increased crowding of the intestines and stomach may result in vomiting and rapidly increasing loss of weight. The diaphragm may become so displaced upwards as to impede the heart's action (the apex often being higher and more to the left). Interference with expansion of the lungs and dyspnea, and even pulmonary edema and pleuritic effusion can occur.

The ensiform is bulged anteriorly, and the hypochondria laterally. Hindrance to the return circulation from the limbs by tumor pressure on the iliac and cava causes varicose enlargement of the lateral superficial and deep epigastric veins.

Swelling and edema of the vulva and lower limbs occur, and are sometimes mistaken for dropsy of renal or cardiac origin. Locomotion with very large tumors may become impossible, the patient being entirely bed-ridden and unless operated on gradually succumbs. Some free ascites is usually present in these large benign tumors, due to the mechanical effect of the tumor on the return portal circulation as well as to the hindrance of the absorptive power of the peritoneal surface itself, yet in all of these cases there is always the possibility that malignant degeneration may have set in.

The uterus is often pressed forwards anteriorly and to the opposite side of the pelvis by intra-pelvic tumors; it may even be prolapsed, but large tumors that have risen into the abdominal cavity usually, at least at first, draw it upwards and sometimes torsion it.

The *facies ovaria* so often noticed in patients with ovarian tumors is due probably partly to mechanical interference with nutrition, partly to substances secreted in the tumor and partly to the loss of ovarian juice secretion.

THE SUBJECTIVE SYMPTOMS OF OVARIAN TUMORS

These vary according to the size of the tumor and whether it is: (a) Extra-peritoneal (intra-ligamentous) sessile; (b) extra- or intra-peritoneal pedunculated; (c) benign or malignant; (d) accompanied or unaccompanied by any other pelvic lesion, e. g., adhesions or inflammation.

1. *Very small extra- or intra-peritoneal* ovarian tumors of themselves frequently cause no subjective symptoms except perhaps some change in the menstrual function and constipation, and but very little if any pain or bearing down unless there are adhesions or infiltration. We must remember that the implicated ovary may as yet be but very slightly enlarged, and macroscopically of quite or almost normal size and appearance, though whether the tumor be cystic or solid usually of a somewhat harder consistency. The microscopic examination alone often reveals the true nature of the tumor. In other cases the tumor, though very small, causes marked symptoms, due perhaps to tension within the cystoma loculi.

2. *Ovarian tumors either extra- or intra-peritoneal reaching a sufficient size to fill the pelvis* crowd or drag on the true pelvic organs; rectum, uterus, adnexæ, bladder and ureters, with increased constipation, sacral, inguinal or hypogastric pain, usually of a dull character, often with a sense of fullness and bearing down accentuated by an increased meteorismus intestinalis. Adhesions or a contracted pelvis or an enlarged or retroverted uterus are liable to cause earlier and more marked symptoms than where the pelvis is of full size or even justo-major, and the other organs of normal non-pregnant size, position, version and mobility. Infection of the tubes or peritoneum or the tumor via the tube or via adhesions to neighboring intestines is often the means of drawing attention to the, till then comparatively symptomless, benign growth.

Malignant tumors usually cause earlier interference with the general health and an earlier seeking of medical advice. Their proneness to be intra-ligamentous in part or wholly, and consequent difficulty in rising out of the pelvis probably also increases the pelvic symptoms, to say nothing of the early accompanying ascites and cachexia. Both benign and malignant tumors, if extra-peritoneal, may extend up into the abdominal cavity with a continuance of pelvic as well as abdominal symptoms.

Pedunculated non-adherent ovarian tumors usually rise entirely into the abdominal cavity when about the size of a third to fourth-month pregnancy, but may occasionally later again descend into the pelvis and even become incarcerated there and give rise to a recurrence of pelvic symptoms. This latter, perhaps, is more common in hard-working people who lift heavy weights than in people of more sedentary life habits.

Kuestner says cysto-adenomata may be of very slow growth and exist for years before they rise out of the pelvis and that dermoids are often especially slow in doing so.

3. *The ovarian tumor having risen permanently above the pelvic brim*, the subjective symptoms may now cease entirely; there being sufficient room for it in the abdominal cavity without crowding the abdominal organs.

4. *As the ovarian tumor approaches the umbilicus it appears* more and more prominent. The symptoms now usually again become marked. Striæ nigrae et albicantes often begin to appear on the abdomen and thighs of nulliparae. As the tumor enlarges it crowds the intestines upwards and posteriorly, and causes increased difficulty in locomotion much as a pregnant uterus at term. The very large ovarian tumors are usually benign cysto-adenoma pseudomucinosum or fibromata. They closely simulate the pregnant uterus but are slower growing, though in one case, operated on by me at the Cook County Hospital, in a girl aged 23 years, the enormous tumor had only existed eleven months, according to the history. Abdominal meteorismic or peritonitic pains may occur from time to time.

Subacute attacks of localized peritonitis probably point to the formation of adhesions, though often extensive adhesions are encountered at the operation without any such history or any evidence of torsion. Sud-

den acute ileus or peritonitis demanding immediate surgical interference often reveals a torsioned pedicle or infection as the cause.

Amenorrhea may set in early, if both ovaries are entirely involved, or menstruation may continue regularly and ovulation and even pregnancy occur if some normal ovarian tissue remains, (either of the ovary itself, or of an accessory or supernumerary ovary). The menses are, however, usually changed in quantity, may even be profuse and sterility is often present. In a case operated on by the writer in the Gynecologic Clinic at Rush Medical College for large bi-lateral ovarian sarcomata, the woman had been delivered of a child only six weeks previously. This would either confirm the opinion that the involvement of both ovaries even by a malignant tumor does not necessarily destroy all the Graaffian follicles till late in the disease.

Stimulation and precocity of the menstrual function by a benign ovarian tumor is given in a case by Hofmeier, who saw regular menses at 7 years of age in a little girl with a well-developed mons and pubic hair in a case of fibroma ovarii; after the operation the menses ceased and the shaved mons did not grow any more hair till puberty.

Dysuria, frequent urination, incontinence or retention have all been seen as an accompaniment of incarcerated pelvic ovarian tumor. Ureteral pressure and uremic symptoms may occur both in the intra-pelvic incarcerated and very large intra-abdominal tumors. Nephritis also is not uncommon in the latter.

Constipation due to reflex idleness of the rectum as well as pressure on the bowel is said to occur equally often with the smaller right sided tumors where there is at least less liability to early rectal compression. *Diarrhea and tenesmus* may result, especially if the tumor lies deep in the cul-de-sac and the rectal wall is invaded by malignant cells or becomes infected. Hemorrhoids are less frequently complained of than would be expected.

THE DIAGNOSIS OF OVARIAN TUMORS.

1. *Preparation for the diagnosis of pelvic tumors* consists of: (a) Evacuation of the bowels by repeated cathartics and enemata. Feces are sometimes very hard even in health. In one case in the Rush Medical College Clinic, palpation by the vagina revealed a plum-stone hardness of the feces very suggestive of tumor. Usually feces feel doughy and devoid of tenderness and elasticity. Through very thin abdominal parietes, as well as vaginally, one can also occasionally appreciate the pressure indentation (pit) that remains in the feces after palpation of the sigmoid. Feces limit space, add to painfulness and cause the patient to resist the examiner.

In percussion (1) feces-filled or collapsed bowels give a dull note to percussion like a tumor instead of: (2) the tympanitic note (of the healthy gas-containing resilient gut), so necessary to outline the dull tumor area sharply. Spencer Wells advised (after evacuation) the injection per rectum of air. Piorry suggested starving for a day. Bed-ridden patients on a milk diet have an abundant inspissated feces demanding thorough precautionary evacuation.

(b) The full bladder has been a frequent source of error. Catheterization (always under the strictest antiseptic precautions) should be performed whether the patient states that she has just urinated or no.

In one case in Cook County Hospital referred for operation, the supposed tumor disappeared after using the catheter. The diagnostician had relied solely on the patient's positive statement.

As in incarcerated retroversio-uteri-gravidi from the third to the fourth month, so in some incarcerated intra-pelvic tumors the urethra may be so lengthened that the catheter must be passed to a much greater distance than normal before it really enters the bladder. The very full bladder alone makes a hemispherical-shaped prominence directly in the hypogastrium extending sometimes as high as the umbilicus and somewhat elastic to palpation. On percussion over the full bladder alone the dullness extends from the pubis evenly upwards to a convex line of dullness ending abruptly in the tympanitic area above. In the presence of advanced normal pregnancy or a large tumor, the distended bladder can often be seen as a super-imposed hypogastric prominence of hemispherical shape. A chemical and microscopic examination of urine should be carried out in every case if possible before the physical examination.

(c) The anesthetic should not be used at first in order that the patient can assist by answering questions as to the presence of pain, etc., as well as by making the changes of position necessary in differentiating the non-change (tumor or circumscribed exudate) or change (free ascites) of the area of dullness and tympanites. If an anesthetic allows of a more complete relaxation, and the employment of the needed force to reach certain parts via the abdominal wall as well as per vagina, we must always remember that much force is contra-indicated in malignant tumors, extra-uterine pregnancy, hematocele, pus tubes, circumscribed collections of exudate or pus for fear of rupturing limiting adhesions, as well as in non-malignant, pedunculated tumors for fear of torsion. In the so-called pseudo-tumors, e. g., meteorismus intestinalis, and the hysterical spasmodic muscular contractions of the abdominal wall that may lead to error unless there is a complete relaxation, anesthesia may be indispensable.

(d) The position of the patient who is (stripped and simply covered by a sheet) lying on a table with a thick pillow under the head and shoulders, flexing the chin well upon the sternum, and a pad under the buttocks so that the spinal column is in slight kyphosis and legs and thighs slightly flexed, thereby relaxing the abdominal parietes to the utmost and the systematic consideration of the tumor as to (a) the size, rate of growth, position and outlines in both the abdomen and pelvis, and its relations to the other abdominal and pelvic viscera, especially to the surrounding tympanitic (air-containing) intestines or stomach.

(b) Its origin—whether it arises in the pelvis (ovarian, par-ovarian, uterine) and is growing upwards or whether sub-diaphragmatically, (hepatic, renal, splenic) and is dislocated or growing downwards is a matter often of great difficulty to decide in very large tumors. Whether it is intra-, or sub-, or retro-, or pre-peritoneal.

(c) Its shape—if normal-organ shaped, (uterus, ovary, kidney, spleen, liver), spherical, oval, flat or hour-glass.

(d) Its surface and edges—if smooth, (benign), lobed, (liver), notched (splenic), nodular (malignant), rounded or sharp.

(e) Consistency soft, doughy (feces), elastic, fluctuating (cystic), crunching (clots), cartilage or wood hard (infiltration or very full cystoma or solid tumor).

(f) Mobility with respiratory movements of the diaphragm (active) e. g., liver, gall bladder, spleen and some kidney tumors. Vicarious mobility, e. g., stomach tumor adherent to the liver or immobility with respiratory movements (pelvic) and other abdominal tumors situated too low to be influenced by the movements of the diaphragm, whether intra-peritoneal or retro-peritoneal. Organs that rise and fall as a rule, e. g., liver or gall-bladder tumor would not do so if adherent or if dislocated downwards too low to be influenced by the diaphragm.

(g) The careful outlining of the location of the sub-diaphragmatic organs is very necessary, as we know the sub-diaphragmatic organs, e. g., wandering spleen or kidney, may occasionally be found just above or in the pelvis.

(2) *The abdominal examination* gives no results till after the ovarian tumor has risen out of the pelvis.

(a) Inspection in a good light of the anterior abdominal wall (patient in the dorsal decubitis) in medium sized ovarian tumors that have risen into the abdominal cavity, frequently reveals a somewhat oval-shaped prominence in the hypogastrium, usually at first situated somewhat more to one side of the median line than the other, and arising from the pelvis; indeed, the patient often seeks advice because of her own discovery of it. Gradually as time passes the growing tumor appears more and more as a median prominence bulging the whole anterior abdominal wall much like a pregnant uterus. Recent striæ-nigræ, in the abdominal wall, indicate progressive distention. While moderate ascites flattens the anterior abdominal wall, abundant ascites and especially meteorismus intestinalis may give a distention much like that of very large tumor.

The enlargement of the lateral superficial epigastric veins in very large tumors due to vena iliaca or cava pressure in contra-distention to the median enlargement (caput medusæ) due to liver cirrhosis is a good differential point.

(b) Palpation of the anterior abdominal wall reveals the soft or tense elastic (often lobed) cystoma, the harder solid tumor or somewhat elastic dermoid with a still harder mass (bone) occasionally palpable in its interior. The tumor of pelvic origin does not rise and fall with respiration, but if pedunculated and only middle sized and non-adherent is often very mobile to palpation. The consistency and mobility are especially appreciable when the patient is emaciated. Absence of the intermittent uterine contractions of Hicks, the fetal parts and active fetal movements exclude pregnancy. Conversation, opening the mouth and deep breathing all assist in combating resistance to palpation on the part of the patient.

(c) Percussion, mediate and immediate of the anterior abdominal wall. The medium sized ovarian tumor gives an oval shaped *dulness* usually sharply defined extending from the pelvis more or less obliquely or mesially upwards, ending in a curved line the concavity of which is usually toward the site of origin, viz., the pelvis, while all above the tumor and postero-laterally (*if no ascites*) the percussion note is tympanitic because ovarian tumors usually displace the intestines upwards and posteriorly. Dulness posteriorly on one side only is always suggestive of hydro- or pyo-nephrosis. The fluid wave and hydatid tremble should both be essayed to rule out free fluid and echinococcus. In the purely retro-peritoneal abdominal tumor the tympanitic (colon) stripe bisecting the dull tumor areas should always be percussed for, as in kidney tumors.

Change of the patient's position to either side or sitting causes no change in the lines of tumor dulness and tympanites unless very mobile or in unilocular cysts with very thin walls and then only slight.

Free mechanical ascites very commonly occurs with the very large benign and the smaller malignant tumors and gives dulness laterally and posteriorly in the lumbar regions while lying on the back. The dull percussion fluid line changes on change of position if due to a free ascites most markedly in the small or medium sized tumors, and less so in the very large ones. In both tubercular and malignant cases the mesentery of the intestines may be so shortened by adhesions or infiltration as to make it impossible for the air-containing tympanitic intestines to rise above even a very moderate quantity of free ascitic fluid alone while in the larger quantities they remain deeply submerged. The falling of free fluid to the more dependent parts on change of position may take several minutes and be less sharply outlined, or indeed circumscription may be complete in places.

(d) Auscultation should be carefully made over every tumor reaching to midway between the symphysis pubis and umbilicus, or higher for fetal heart tones and active bruits: (the certain auscultatory signs of pregnancy). Souffles (synchronous with the mother's heart) are only of presumptive value as a sign of pregnancy, as they also infrequently occur in ovarian tumors, and are comparatively common in uterine (cavernous) fibroids, and some sub-diaphragmatic, e. g., splenic tumors. The Beatty-Bright friction rub may be occasionally heard in some pelvic tumors, and large splenic or hepatic tumors.

Three years ago Alice R., aged 32 years, widow, was referred to me with a seven months' pregnancy sized tumor. Pregnancy was denied. I was able to positively prove the presence of (fetal) heart tones (140-150 per minute) not synchronous with those of the mother (eighty per minute). This I have repeated many times in women, occasionally having to keep them under observation till the development of the certain signs. In contra-distinction to the foregoing, ovarian and uterine tumors are not infrequently diagnosed as pregnancy.

(e) Succussion can be accomplished with success in rare cases of ovarian cystoma with large locules that have become invaded by gasogenic bacteria usually from adherent intestines.

(f) Puncture (a) of the ovarian cyst as a means of diagnosis either through the abdominal wall or through the vaginal fornix is blind work, the danger of wounding an intestine, and the escape of fecal matter, or the contents of malignant tumors, or dermoids, or pus from suppurating tumors and peritonitis are too great to risk in these days of improved aseptic and antiseptic operative technique, and should be proscribed. After tapping supposedly free ascites in cases apparently of hepatic, renal or cardiac or tubercular peritonitic origin one should always re-examine the woman. Under the now more favorable conditions it has been my good fortune to discover a malignant tumor as the real underlying cause of the ascites and other symptoms on more than one occasion.

(3) *The vaginal examination* in the dorsal-buttocks or lithotomy position. (a) The location and outline of the uterus and adnexæ on both sides should first be attempted vaginally irrespective of any previous conclusions.

(b) The relation of this tumor to the broad ligament and uterus is very important to elucidate.

(1) *Very small intra-pelvic ovarian tumors:* (a) Bi-manually the pedunculated intrapelvic tumor pedicle is usually too slack to palpate. A tumor of either kind, intra-peritoneal or extra-peritoneal can usually be outlined lying in or under the cul-de-sac either posteriorly or postero-laterally as a spherical or oval or irregular shaped (elastic) retention cyst or (hard) cystoma or solid tumor. If non-adherent and not too small the pedunculated tumor can sometimes be displaced upwards above the brim when the pedicle may be appreciated by a combination of Hegar's and Schultz's methods. Again larger pedunculated tumors may remain incarcerated in the pelvis though non-adherent, and may not be displaceable upwards either in the dorsal or genu-pectoral position by pressure either vaginally or rectally; that at the time of operation are very easily lifted out of the pelvis and found to be entirely devoid of adhesions.

Uterine displacements by small intra-pelvic tumors have been noticed by the writer to be sometimes very marked when the tumor did not appear large enough to account for it, while in other cases, with larger tumors, the displacement of the uterus to the opposite side of the pelvis was proportionately less marked.

(b) The extraperitoneal (intraligamentous) intrapelvic tumor may appear as if immediately attached to the laterally displaced and often somewhat immobilized uterus, but by the aid of either the sound or better the volsellum, a snaring at the point of contact with the artificially prolapsed uterus is often appreciable to the finger in the vaginal fornix, while above it may appear to form one mass with the corpus uteri.

Ovarian tumors still within the pelvis are difficult to differentiate, if there is any pelvic exudate (Winter).

(2) *Fist size to 'man's head sized pedunculated ovarian tumors* that have entirely risen above the pelvic brim should be examined vaginally with special reference to proving their ovarian origin by searching for the pedicle composed usually of the three structures, viz., (a) The ovarian

ligament; (b) The ala vesperilionis of the broad ligament; (c) The tube.

Hegar recommends grasping the cervix with a volsellum to drag the uterus down when by the vaginal touch the tense cord-like pedicle of the tumor is more easily appreciated; also the normal ovary on the opposite is more within reach. In long slack pedicle, B. Schultz has an assistant with the hands on the hypogastrium drag the tumor upwards to make the pedicle between the tumor and adnexa still more tense and distinct to the vaginal finger.

If both ovaries can be palpated it is evidence that the tumor probably arises from some other organ, though it must never be forgotten that accessory and supernumerary ovaries are very liable to be a source of tumor (Winckel).

(3) *Bi-lateral ovarian tumors* are very much more difficult to differentiate because it is often impossible to palpate either of the two pedicles, neither do the tumors always lie laterally. Outwardly it may be very deceptive, viz., the two tumors may be either distinct, or appear as one, or a single tumor being lobed appear as two.

We should always keep in mind the possibility of tumor and pregnancy occurring together, intrauterine, as well as the remoter but not impossible concomitant, extra-uterine.

(4) *Very large pelvic tumors* that fill the entire abdomen may be very difficult to differentiate from very large hepatic renal or splenic tumors except by consideration of the total symptoms and physical signs.

The differentiation from the retroverted pregnant uterus, the hydramniotic or bladder mole uterus or uterus with dead child; from extra-uterine pregnancy with or without retrouterine hematocele; from hematometra, hydrometra, pyometra, physometra; fibroma uteri or preperitoneal fibroma; from hydrosalpinx or pyosalpinx, especially the tubercular; from parametric exudates; from chronic appendicitis vermiformis and chronic purulent or tubercular circumscribed peritonitis; from carcinoma of the intestines or omentum or sarcoma of the mesentery; from ecchinococcus or actinomycosis of the pelvic adnexæ or the organoptoses from the subdiaphragmatic region, necessarily cannot be dealt with in full within the scope of this paper.

Ovarian or par-ovarian tumors in pregnancy occur once in 891 labors (Fehling) and twice in 13,000 (Loehlein). Both ovarian and par-ovarian tumors probably tend to hinder the woman becoming pregnant. *In a uni-lateral ovarian tumor*, the other ovary being healthy, pregnancy may occur at any time (on exposure) during the reproductive period, provided the tubes and uterus be normal. *In bi-lateral ovarian tumors*, sterility naturally results if all the Graaffian follicles be destroyed, but even in the bi-lateral tumors some Graaffian follicle containing ovarian tissue often still remains in the wall of one or both ovarian tumors near the hilus, or ovulation can occur from an accessory or supernumerary ovary if one be present.

In the bi-lateral malignant case with abundant ascites operated by me at the Presbyterian Hospital, serial sectioning and microscopic examina-

tion by Professor Le Count of Rush Medical College resulted in finding some normal follicles still present though the smallest of the malignant tumors was as big as the fetal head.

From the foregoing it is difficult to say why pregnancy in tumor cases is comparatively infrequent. Wertheim thinks the displacement of the uterus and tubes or other concomitant pathologic change may be the cause. It is very possible that in malignant cases ascites may be a factor. Lastly the fact of microscopic evidence of the presence of apparently healthy Graaffian follicles is not proof of their capability of impregnation. August Martin points out the infrequency of malignant tumors as a complication of pregnancy. Neither does pregnancy seem to dispose to malignant degeneration of benign tumors.

(a) Small benign ovarian tumors present during pregnancy may entirely escape notice causing symptoms neither in pregnancy nor in labor; indeed they are often not discovered till the pregnancy is over for many months. Abortion (perhaps due to the uterus being held in retroversion), immature or premature labor may result. Malignant tumors in pregnancy cause much more marked distention than benign tumors of the same size due to the ascites.

Pedicle torsion is three times more frequent in the pregnant than in the non-pregnant (Williams), perhaps due to the growing pregnant uterus elevating the tumor early into the abdominal cavity where there is more room or perhaps it rolls it around as it were by friction. In pregnancy tumors usually grow more rapidly than in the non-pregnant (Jung). The growth due to the quiescence of the ovaries in pregnancy may not be more rapid (Loehlein).

In two of my cases of benign intra-peritoneal cystoma in pregnancy the tumor remained firmly wedged in the cul-de-sac of Douglas. Neither were adherent or at least very slightly so; in neither was there any ascites. The pedicle in both cases was very long.

Large ovarian pedunculated tumors in pregnancy usually rise out of the pelvis or are pulled out of it unless adherent and cause, according to their size, an increased distention of the abdominal cavity, especially if ascites be present; also an increase of such symptoms as constipation, edema, varicosities and urinary symptoms, and difficulty of locomotion.

DIAGNOSIS

The usual preparations should never be omitted. (a) The earlier in pregnancy the more simple is the diagnosis of small complicating tumors. (b) With large tumors an early pregnancy may be difficult to detect and vice versa. The anamnesis is very important to decide both the diagnosis of and the month in pregnancy. The date of the beginning of the amenorrhea in a woman previously regular is a good guide; the onset of morning sickness, the changes first noticed in the breasts of nullipara, the first active fetal movements noticed and when the rapidity of enlargement became marked are all very helpful in deciding the month in pregnancy. Multiple pregnancy, hydramnion and hydatid mole, should also be thought of and excluded as a cause of a too marked enlargement for the month in pregnancy.

(c) Bi-manually in very early pregnancy one can frequently outline the anteposited intermittantly contracting uterus and also the small tumor of a different consistency. If the tumor be larger and has risen into the abdominal cavity, the uterus may be drawn so high up as to make it difficult or impossible to outline. The distended abdominal walls of big tumor cases are difficult to depress. The pedicle can usually be palpated up to about the third month of pregnancy.

(d) In later pregnancy palpation of the abdomen (in thin women with flaccid abdominal walls) may reveal the intermittently contracting uterus and by the side of it or above it or partly in the pelvis a tumor of a different consistency devoid of intermittent contractions. (e) An intra-abdominal ovarian tumor behind the large pregnant uterus may be entirely inaccessible to abdominal palpation, but if it is in or extends into Douglas' sac it can often be palpated by the internal (whole) hand bi-manually as in two of my cases.

Percussion (patient in dorsal decubitis) outlines the larger-than-normal dull area (pregnant uterus and tumor like one large tumor, arising from the pelvis with the tympanitic intestines above), and posteriorly.

The presence of ascites from purely mechanical causes in large benign tumors and advanced pregnancy together occurs much as in very large benign tumors alone. Ascites in an apparently normal pregnancy in the absence of signs of cardiac, renal, hepatic or tubercular disease, and in the absence of discoverable signs of tumor should always lead one to suspect the possibility of a small malignant tumor. Auscultation should always be made for the fetal heart tones.

Treatment Prophylactic.—Every woman in early pregnancy should be carefully examined to decide if (a) the pregnancy is extra- or intra-uterine; (b) any pelvic contraction is present; (c) any retroversion exists which may lead to incarceration; (d) any tumors can be palpated or percussed, as well as the other and more commonly performed routine procedures. An ovarian tumor should be removed by laparotomy irrespective of whether discovered in early pregnancy or late pregnancy. Viability may be waited for if the patient is in a hospital and in good condition. Jung operated after premature labor had begun, and the labor was arrested and the woman went to term. If the tumor does not actually obstruct labor, it may so change the direction of the contractions of the uterus as to hinder labor or cause a malpresentation or rupture of tumor or pedicle or uterus. Obstruction to labor by a small ovarian tumor lying in the pelvis may be complete; in other cases with strong uterine contractions, the cul-de-sac has gradually been stretched and the tumor expelled through the everted rectum, the prolapsed wall of which covered the tumor (Bland Sutton), as it protruded through the sphincter. Rupture of the rectal wall and expulsion of the tumor may occur. Rupture through the cul-de-sac and the posterior vaginal fornix has also occurred in several cases reported after the violent misuse of forceps with fatal result. If labor is successfully ended by the child crowding past the flattened tumor, the increased roominess of the

abdomen due to its lessened contents, increases the danger of torsion if the tumor rises above the brim. Other complications such as adhesions and infection due to the trauma and greater number of examinations and amount of operative manipulation. Suppuration of the tumor is very liable to occur.

In Labor With an Ovarian Tumor in Douglas' Sac.—If the pelvis is of normal diameters it naturally would not cause as much obstruction as where the pelvis was contracted. It often takes but a small tumor in the cul-de-sac to totally obstruct labor. Undoubtedly many thin walled retention cysts and cystomata rupture during pregnancy or labor. In the former, the cyst may not refill, though many of these have tough walls that no uterine contractions can crowd sufficiently to rupture, but the neoplasm grows relentlessly. Cystic tumors can be changed in shape more easily than solid tumors. Reposition above the pelvic brim, with the patient in genu-pectoral position before or very early in labor, may be possible in some cases. After the contractions are strong it will be impossible. Punction of a unilocular tumor through the posterior vaginal fornix or vaginal celiotomy and breaking up of the multilocular or solid tumor (morcellation) is blind work and the danger of peritonitis is too great. The rapidly descending head forced down by uterine contractions gets in the way and death may occur from hemorrhage following the operation even though the os be dilated and the child be quickly delivered by forceps.

After punction Haischlein advises laparotomy within two days to entirely remove the tumor. Hebotomy or one of the pelvic bone-widening operations might be considered in the case of small tumors. In all cases of tumor complicating labor the increased number of examinations and manipulations are liable to result in very serious or even fatal infection.

(a) The median abdominal incision: It may be impossible to remove the tumor though non-adherent from behind the uterus while the child is still in it, even by taking the uterus out of the abdomen, which demands a very long incision. (b) Cæsarean section, i. e., removal of child and afterbirth and suturing uterus, then the removal of the tumor. The case reported by the writer (*Jour. A. M. A.*, Feb., 1909), has since given birth to a child by the natural passages. (c) As pointed out by Dr. Alex. Hugh Ferguson in the discussion, the presence of ascites or other sign of malignancy demands the removal of the tumor by laparotomy in any stage of pregnancy, without delay.

DISCUSSION

The President: While complimenting this presentation as a whole, I wish to dissent from one thing: it is that he gives the woman her choice with an ovarian tumor, whether she would go on with her pregnancy or have the operation done. Had I given that advice in six cases which were sarcomatous, it would have been very bad advice. I advised operation and they all recovered. In my opinion a woman who is pregnant and has an ovarian tumor should be advised to have an operation as soon as the diagnosis is made. That is my practice and my teaching and I have never regretted opening the abdomen in these cases—especially in the six above mentioned which are in my mind having occurred within the past four years.

A. Belcham Keyes: I qualified that statement by saying, "the woman should be under gynecological supervision," but Dr. Ferguson is right. I dwelt at some length upon the point of malignancy in the early part of the paper. The paper would have taken an hour and a half to read, yet the one thing which I did not mention, in regard to pregnancy complicated by tumor, as I should have done, is the point made by Dr. Ferguson and I thank him for bringing it out.

PERFORATING GASTRIC ULCER *

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CHICAGO

It happened that I was able, at the recent meeting of the Surgeons of North America in Chicago, to show at one time three successful cases of operation for perforated ulcer of the stomach, two operated on by myself and one by Dr. Thomas A. Davis. I was thereupon led to look up the records of the cases of perforated gastric ulcer which had been treated in the Cook County Hospital for the last three years.

I find that eleven cases of perforation of a gastric ulcer have occurred in the hospital since the beginning of 1908. Brief sketches of the histories follow.

CASE 1.—No. 492, aged 22 years, laborer, entered service of Dr. Robertson Oct. 20, 1908. Two years before patient had been awakened by a severe pain throughout the whole abdomen. No further symptoms were noticed until two months before, when he had another attack of severe abdominal pain coming on a few hours after eating and being relieved after taking food. Two similar attacks occurred since then, the last one several hours before entrance. The bowels had not moved for three days.

The abdomen was rigid, the maximum tenderness was at the umbilicus, later over the appendiceal region, the temperature was slightly subnormal, there had been no vomiting, the respirations were shallow and costal, liver dulness was absent, leukocyte count 8,000, enema successful.

Operation by J. D. Robertson; incision as for appendix over right rectus; appendix found inflamed and adherent to colon; appendectomy. The peritoneum was everywhere injected and much yellowish fluid and fibrinous flocculi were found in the abdominal cavity. Since the condition of the appendix did not account for all this, a second incision was made in the median line above the umbilicus, and the stomach was delivered into the wound. An ulcer was felt near the pylorus and lesser curvature on the anterior surface. This was covered with fibrinous exudate, and in the center of the indurated area corresponding to the ulcer was a perforation three-eighths of an inch in diameter, from which the gastric contents were freely discharging. The perforation was closed by a double row of Lembert sutures and a gauze drain was inserted to the site of the perforation.

The foul discharge and fever became increased at the end of the first week, and 50,000,000 dead colon bacilli were injected. The next day there was diminished odor and discharge and the general condition improved for a short time. The patient, however, gradually failed and died three weeks after the operation.

* Read before the South Side Branch of the Chicago Medical Society, March 28, 1911.

CASE 2.—No. 4, aged 23 years, brass founder; entered service of Dr. Schroeder. The diagnosis of perforation was made in the examining room. The patient had been ill one week.

Operation by Dr. Schroeder; a median incision above the umbilicus revealed a ruptured ulcer in the pyloric region on the anterior surface. There was a moderate amount of thin gray fluid in the abdomen. The opening was closed by a double purse-string suture of silk, two strips and one rubber tube were used as drains, and the patient was put in Fowler's position. He was discharged recovered four weeks after the operation.

CASE 3.—No. 243, aged 31 years, teamster; entered service of Dr. Besley with an examining room diagnosis of acute appendicitis. He had been a heavy drinker and had suffered from spells of indigestion for years. He was taken a few hours before entrance with cramps over the whole abdomen, which finally became a steady excruciating pain, chiefly in the right side of the abdomen.

The abdomen was very rigid, especially in the upper part of each rectus muscle, dulness in flanks changing with change of position, no localized point of tenderness, right leg flexed on the abdomen. The leukocyte count was 26,200.

Operation by Dr. F. A. Besley, eight hours after the onset of the attack; incision over region of appendix; rush of gas and greenish fluid; appendix normal; wound closed and second incision made in epigastric region to right of median line. The stomach was picked up and a perforation 1 cm. in diameter was found just above the pylorus on the anterior surface, from which oozed greenish yellow fluid with bubbles of gas. An area of induration surrounded the ulcer. The opening was closed with through-and-through sutures of catgut and Lembert sutures of linen. The wound was closed, another was made for drainage in the median line just above the pubes and a drain, consisting of a tube and gauze, was placed therein. The man was placed in Fowler's position and enteroclysis was ordered.

The temperature began to rise and the patient got weaker rapidly; the abdomen became much distended in spite of eserine and asafetida; death occurred on the fourth day after operation.

CASE 4.—No. 1,126, aged 36 years, crane operator; entered service of Dr. Besley. He had never had any serious illness, although there was a suspicious scar on the penis. The present illness began two weeks before, with pain and uneasiness in the epigastrium to the left of the ensiform. This condition was most marked after meals; he frequently had sour eructations, but had never noticed blood in stools or vomitus. On running for a car he suddenly had severe pain in the epigastrium and almost collapsed. He was taken to a doctor's office and given morphine, which eased the pain. Soon after the abdomen became rigid and he suffered intense agony up to the time of entrance.

The abdomen was slightly distended, there were marked signs of shock, intense pain and marked dyspnea. The abdomen was rigid, the liver dulness obliterated and there was movable dulness in the flanks. The temperature was a little below normal; leukocyte count 9,600; nausea, but he had ceased to vomit.

Operation by Dr. Besley; incision to right of median line above umbilicus; abdomen filled with gas and purulent fluid with much plastic material. The stomach was delivered into the wound and an opening was found 1.5 cm. in diameter on the anterior surface of the cardiac end with indurated tissue surrounding. The perforation was closed with a double row of Lembert sutures of linen, a drain was placed in the upper wound and a small wound for drainage was made in the median line above the pubes, through which a tube was passed. The patient left the operating room in poor condition and died from shock twenty-four hours after the operation.

CASE 5.—No. 7,472, aged 32 years, man; entered service of Dr. Davison. He had recovered from an attack of influenza nine days before. Five days before entrance he had sudden cramp-like pains in the abdomen lasting all night, some vomiting, tenderness in abdomen persisting after cessation of cramps. Vomiting

was frequent ever since, although never bloody, hiccough almost constantly, great thirst, pallor, weakness, rapid and weak pulse.

Examination showed condition of collapse on entrance, tympany present over liver area, leukocyte count 5,200. He died in a few hours after entrance without operation.

CASE 6.—No. 11,341, laborer; entered service of Dr. Eads. Six hours before he had sudden cramp-like pains in the abdomen, especially marked in the epigastrium, which persisted. He had not vomited. For four months he had suffered from frequent attacks of pain in the upper abdomen, accompanied with vomiting, which relieved the pain, acid eructations, no hematemesis and no melena.

He exhibited on entrance signs of much suffering, was rather stuporous, referred his pains rather more to the right groin, showed generalized tenderness over abdomen, most marked over McBurney's point and also under the right costal cartilages; there was some rigidity of the abdomen. Temperature subnormal.

Operation by Dr. Rowan; incision as for appendicitis, free seropurulent fluid in abdomen, appendix retrocecal and tightly bound down by adhesions, appendectomy. Not enough in appendix to account for the amount of fluid, therefore incision in the median line above umbilicus. A perforation was found in the anterior wall of the stomach at the region of the pylorus. This was closed with linen sutures and a tube drain was introduced. Normal salt enemata were given for several days. On the second day the stomach was aspirated and much black fluid was withdrawn. Solid food was given in three weeks, and he left the hospital recovered three months after the operation.

CASE 7.—No. 11,298, aged 53 years, paperhanger; entered the service of Dr. Ryan with an examining room diagnosis of perforated gastric ulcer. He had been in good health until the morning of entrance, when he was seized with a severe pain while at work, had to go to bed at once, vomited slimy material; since then pain of a colicky character had been almost constant and prostration had been marked.

Examination showed marked prostration, a tense tender abdomen, some dulness in the flanks. The point of greatest tenderness seemed to be in the umbilical region.

Operation by Dr. Ryan. A longitudinal incision in the right hypochondrium revealed the abdominal cavity filled with stomach contents which seemed to come from the left side of the abdomen. A second incision was made in the left hypochondrium and a perforating gastric ulcer was found in the cardiac end on the anterior surface. The opening was closed by a circular suture of catgut and two rows of Lembert sutures, drains were inserted in both laparotomy wounds and in both iliac fossæ. Transfusion of salt solution. The patient died in two days without recovering from shock.

CASE 8.—No. 71,203, aged 23 years, laborer; entered the service of Dr. Amer-son with an examining room diagnosis of perforating gastric ulcer. He had suffered occasionally during the last few years with dyspeptic attacks, sometimes with vomiting, but never with hematemesis. He was suddenly taken, about four hours before entrance, with severe excruciating pain in the epigastrium to the right. A physician gave some anodyne hypodermically and advised removal to the hospital. His pain was considerably relieved by the injection and so he delayed his entrance until the pain became unbearable again. He came into the hospital in a state of considerable shock, his pulse was weak and 150 to the minute, and he was cyanotic. His pain was intense in the epigastrium, the abdomen was tender and very rigid throughout. Although the abdomen was moderately distended, the distention was mainly due to fluid, as was shown by the dulness in the flanks and the slight tympanitic character of the percussion note. The patient came in shortly before my regular clinic and during the medical clinic of Dr. M. M. Portis, who kindly consulted with me about the case. We made a provisional diagnosis of probably perforated gastric ulcer, impaction of gall-stones

or acute pancreatitis, with the probabilities in the order named. We agreed on an exploratory opening of the abdomen.

The incision was made in the median line above the umbilicus. When the peritoneum was opened there was a gush of cloudy fluid mixed with large flaky masses of a yellowish white color. Two or three quarts of this fluid were evacuated before it was possible to see where the perforation was situated. A little gas escaped later as I manipulated the stomach in endeavoring to find the lesion. The perforation was in the anterior wall of the stomach about 3 inches from the pylorus and very near the lesser curvature. The gastric wall around the hole was edematous and thickened. The opening was about one-quarter of an inch in diameter and had the appearance of a punched-out hole. The edges of the ulcer were excised and the opening closed by through-and-through sutures of catgut and Lembert sutures of linen. Another wound for purposes of drainage was made a little above the pubes and a cigarette drain inserted therein. The upper abdominal wound was closed. The patient received an enema of normal saline solution before leaving the table and was placed in bed in Fowler's position. Our method of applying this position in the Cook County Hospital is rather crude because of lack of proper apparatus, and consists in propping the patient up in bed on an inclined bed-rest and holding the buttocks by a sheet passed under them and attached at either end to the head of the iron bed.

The after-treatment in this case consisted of normal salt continuous enema for about twenty-four hours to combat the extreme shock; later nutrient enemata of eggs, peptonized milk and coffee. Nothing was given by mouth for three days, then for one day hot water only, then for two or three days liquid food, then light semi-fluid diet for four days and gradually a more generous diet.

The patient rapidly recovered from the shock, had no rise of temperature and no untoward symptoms except thirst for four days. He left the hospital recovered one month after operation.

CASE 9.—No. 11,582, a school girl, aged 19 years; entered the service of Dr. Robertson with an examining room diagnosis of acute appendicitis. She was first taken ill about two years before with gastric distress, especially on taking food, dull epigastric pain, nausea and vomiting, loss of strength, and anemia. She had these symptoms in greater or less degree at intervals ever since. A year before she had once vomited bright red blood. The present illness began a few hours before entrance with sudden excruciating pain in the epigastrium, radiating to the lower abdomen, and vomiting.

She entered the ward evidently in great pain, with rapid and shallow breathing. The abdomen was tympanitic, but no fluid was demonstrable. Rigidity was marked on the entire right side of the abdomen; tenderness was marked in the left epigastric region and over McBurney's point.

Operation by Dr. Thomas A. Davis for me fourteen hours after onset of the attack. Before operation the diagnosis was determined to be perforating gastric ulcer, therefore the incision was made above the umbilicus a little to the right of the median line. A localized sac containing pus and stomach contents was opened and a perforating ulcer was seen on the anterior wall in the cardiac area and towards the lesser curvature. This ulcerated opening was sutured by a double row of Lembert sutures and the cavity was drained. The after treatment was similar to that in Case 8. In her case there was no involvement of the whole peritoneal cavity, since the contents of the stomach emptied into a space already walled off by previous adhesions. It is probable that her ulcer had been in existence for a considerable time; even the perforation may have occurred days before the acute symptoms. The girl left the hospital five weeks after operation entirely recovered.

CASE 10.—No., aged 47 years, entered my service suffering from extreme pain in the epigastrium which wakened him from a sound sleep. As soon as possible he came to the hospital and was operated on within three hours of the acute attack. The man had been addicted to alcoholic excesses and had frequently suffered from dyspeptic symptoms during the past few years, but had otherwise

been in good health. He never suffered from very severe pain, seldom vomited, never vomited blood and never sought treatment for any stomach disorder. Therefore we may say that he never had exhibited any marked symptoms of gastric ulcer, although he had a severe acute attack of epigastric pain lasting five minutes four days before the attack for which he entered the hospital.

The man had received half a grain of morphin and yet he was still in such severe pain and was so tender that the abdomen could not be palpated before administering the anesthetic. An hour before the operation careful percussion had shown considerable tympanites but no obliteration of liver dulness. At the time of operation the liver dulness was distinctly obliterated and there was movable dulness in the flanks. A diagnosis of perforating gastric ulcer was made before opening the abdomen.

The incision was in the median line above the umbilicus. As soon as the peritoneum was opened gas and fluid escaped. The cloudy watery fluid contained flakes of matter evidently from the stomach. A round punched-out hole about one-quarter of an inch in diameter was seen in the anterior wall of the stomach well towards the pylorus. The stomach was so bound to the posterior wall of the abdomen by old adhesions that it could not be well raised into the wound. Therefore the subsequent operative procedures were difficult, inasmuch as they involved working at the bottom of a deep hole.

While my assistant held the stomach by the pyloric end of the greater curvature within the folds of a piece of gauze and exerted traction upon the organ, I first excised the margin of the ulcer and then united the edges. Union was by two layers, one through-and-through of catgut sutures and the outer Lembert sutures of celluloid linen. The wall of the stomach bled rather freely at some of the sutures and there was some troublesome hemorrhage from an arterial branch near the lesser curvature which had been accidentally torn. A ligature secured the latter and additional sutures stopped the bleeding from the former. A long curved forceps was passed through the wound downwards in the median line to a point just above the pubes, hugging close to the anterior abdominal wall. An incision an inch long was made upon the end of this forceps and a cigarette drain was passed therein. Another cigarette drain was passed through the upper wound to the depths of the sulcus between the stomach and the liver and gall-bladder. This last drain was determined upon because of the deep hole at the bottom of which were the sutures in the stomach. The patient was given a normal salt enema before leaving the table and was placed in bed in Fowler's position.

The subsequent history was similar to those of cases 8 and 9. The man left the hospital in one month after the operation, recovered. The three cases, numbers 8, 9 and 10, were shown at my clinic before the North American Surgeons.

CASE 11.—No. 1, German, aged 36, farmer, entered the service of Dr. Eisendrath with an examining-room diagnosis of perforating gastric ulcer. For some time he had noticed a sense of fulness and some pain after eating, especially marked in the epigastric region. He often vomited about one hour after meals; the vomitus was bitter and acid but never contained any signs of blood. About eight hours before entrance he suffered a sudden sharp pain in the epigastrium, which later became diffused over the whole abdomen; he vomited several times a brownish material. His bowels had moved that morning.

Examination showed a man somewhat emaciated and appearing much older than his given age. He had a drawn expression, shining eyes, fast respirations, a temperature of 100 and a pulse of 100. The abdomen was distended, somewhat rigid, and very tender on pressure. The liver dulness was partly obliterated, the pulse was fast, wiry and irregular.

Operation by Dr. Eisendrath eleven hours after the beginning of the acute attack. A median incision above the umbilicus revealed the abdomen filled with stomach contents and gas. A jagged perforated ulcer as large as a half dollar was found on the anterior surface of the stomach near the lesser curvature. This opening was closed by Lembert sutures of catgut. Two cigarette drains were

inserted from the wound. The patient was put in Fowler's position and ordered saline solution, coffee and whiskey per rectum every four hours.

The patient did not recover from the shock of the operation and died eight hours afterwards.

This series of eleven cases, while small for a hospital and a surgical service as large as that of the Cook County institution, yet exhibits the usual characteristics of larger series which have been reported.

Ten of the patients were men and one a girl of 19 years. As to age: one was under 20; three were between 21 and 30; four were between 31 and 40; two were over 40; in one instance the age is not stated in the history. Previous disorders of the digestion were noted in eight cases; previous attacks of vomiting in five cases; previous attacks of hematemesis in one case; previous attack of influenza in one case.

Of the eleven cases six died and five recovered. Of those who died, one succumbed twenty-four days after operation; one four days; one twenty-four hours; one in forty-eight hours; one in eight hours; one died without operation five days after the onset of the attack and a few hours after entrance to the hospital in collapse. Three of the deaths were from sepsis and the rest from shock. Of the fatal operative cases all were operated on within twelve hours of the onset of the attack, as well as could be determined from the histories. Of the cases which recovered, two were operated on within three hours of the onset; one within eight hours; one within ten hours; one in which the history is defective, was operated on within six hours of entrance but no record exists of how long before the entrance the onset of the attack occurred.

Most authorities who have reported series of cases state that the prognosis is much better when the operation is undertaken within twelve hours than when undertaken later.

The diagnosis of perforating ulcer was made before the operation in seven of the eleven cases; three times, on a diagnosis of acute appendicitis, the first incision was made in the right iliac region as if for an appendectomy. One was not operated on.

Gibbon and Stewart¹ report a series of twenty-two cases of perforating ulcer, fifteen of the stomach and seven of the duodenum. In all the perforation was in the anterior wall of the viscus near the pylorus. In the large majority there was free gas in the abdominal cavity. In the cases operated on early the abdomen contained chiefly gastric contents, in the latter cases there was serum and pus mixed with the former. Plastic lymph was found in very many cases, especially around the seat of the perforation, and, in later cases, even covering the cecum, colon and sigmoid as well as the small intestines. Finding such lymph patches on the intestines near the appendix in some cases where the incision had been made over that organ, would tend to confirm one's diagnosis of perforative appendicitis. In numerous instances valuable time has been lost and the tendency to shock has been much increased on account of delay in operating first on the appendix.

1. Jour. A. M. A., 1909, vol. lili.

In the majority of cases the diagnosis will be made by the careful surgeon before operating. At least there will usually be enough urgency to the symptoms to call for an exploratory laparotomy. In the instances of slow perforation and early in the acute cases, the contents of the stomach pass down the right side of the stomach over the omentum or to the outer side of the colon to the right iliac fossa. Hence we can easily account for the frequent similarity of the symptoms and signs to those of acute appendicitis. In most cases, however, there will be, in perforating gastric ulcer, a history of a primary sudden pain in the epigastrium at the onset of the attack. When seen early, patients suffering from a perforation of a gastric ulcer, rarely exhibit much distention of the abdomen. On the contrary, the abdominal walls are usually very rigid and somewhat retracted. The first pain is probably caused by the first contact of the stomach contents with the peritoneum. The extravasation of gastric contents is not very rapid, because the hole in the stomach wall is not large. Gradually the abdomen fills with gas from the cavity of the stomach and with fluid from the stomach and by exudation from the irritated peritoneum. The persistence for quite a time of normal liver dulness is no proof against perforation. Since the prognosis is better the sooner operation is undertaken, there is no time to wait for that certain sign of perforation, obliteration of the hepatic area of dulness.

The very treatment which the patients receive in most cases from the first physician called tends to obscure the diagnosis. Of course when called to a patient suffering excruciating pain anywhere there are few who will refuse to give a hypodermic of morphin. Few of us would not demand it for himself. The anodyne may sometimes give enough relief to induce the patient to postpone operation or even to delude the medical attendant into the belief that his former suspected diagnosis of perforation was incorrect. Fortunately the largest safe doses of morphin are usually insufficient to do more than deaden the intolerable pain to a very small degree. The rigidity and extreme tenderness in the epigastrium usually persist, except under complete anesthesia, in cases of true perforation.

Every case of severe belly-ache is not appendicitis, gallstone-colic, acute pancreatitis or perforation. Many functional disorders of the stomach and bowels are accompanied by severe pain. If there happens to be some tenderness in the epigastrium we are not necessarily justified in opening the abdomen any more than when the pains and tenderness are in the right iliac fossa. The whole question rests on the degree of pain, tenderness and signs of collapse. Here comes in the personal equation. The surgeon of large experience and mature judgment must weigh the evidence in each individual case. Other things being equal, the well-trained and experienced family physician who is not a surgeon is best qualified to judge, especially if he has had the advantage of previous acquaintance with the patient and knows how much weight to allow for his fears, susceptibility to pain and nervousness. On the other hand, since the exploratory opening of the abdomen is now such a comparatively safe procedure in good hands and under proper surroundings, it would not be permissible in cases of doubt to wait long before operating.

There is usually a previous history of more or less disturbance of digestion, such as pains and distress after eating, spells of vomiting and the like. Vomiting after perforation occurs in about half of the cases, seldom vomiting of blood. Collapse is variable and not of diagnostic value. The temperature is usually normal or a little subnormal. The respirations are apt to be thoracic and shallow. The pulse is usually accelerated and weak in proportion to the other signs of collapse. Leukocytosis is of little diagnostic value. In the early stages it is seldom marked and in the later stages has a prognostic value as a sign of the resistance of the patient.

Gastric ulcer itself is usually considered to be much more common in women than in men, but according to most observers, perforation of such an ulcer is far more common in men. In my series ten of the eleven were men. In the Gibbon and Stewart cases eighteen of the twenty-two were men. Age seems to have little relation to etiology of this accident, except that it is found very rarely in children. The immediate cause of the perforation is sometimes apparent, such as sudden exertion, vomiting after errors in diet, blows on the abdomen or rapid filling of the stomach.

The mortality of reported cases seems to be about 50 per cent., including those operated on early and late. Success seems to depend largely on the time when operation is done, of course, the earlier the better. Mikulicz states that the prognosis is four times as good when operation is performed within the first twelve hours. This operator performed laparotomy thirty-five times for perforating gastric ulcer during the period 1885-1894 and had only one recovery. Of sixty-six operations performed during the period 1894-1896 he had thirty-two recoveries and thirty-four deaths. Brunner reported 387 cases operated on up to 1902 with 201 recoveries and 186 deaths.

Monro of Boston in 1904 reported a series of seven cases of perforated ulcer, six of stomach and one of duodenum with operation in each case. He had four deaths and three recoveries. Six of the patients were young women and one was a man aged 47 years. In each there was a history of previous dyspeptic symptoms, usually for several years. In all his fatal cases the onset of the acute symptoms had occurred more than forty hours before operation. In the favorable cases the onset had occurred seven hours, twelve hours and nine days respectively before operation. The last case was a subacute one in which the general peritoneal cavity was not involved but the gastric contents and the pus were found in a localized abscess cavity in front of the stomach and liver.

In conclusion we might observe that, according to the records of the Cook County Hospital, the occurrence of perforating ulcer of the stomach in this community is rare. Only eleven cases are recorded in the files of the history library of the institution during the last three years. This is in a charity hospital of 1,500 beds. Leaving out of account the case which was not operated on, our mortality rate is exactly 50 per cent. There was a large preponderance of males in the list, ten to one.

The diagnosis was made before operating in seven of the ten cases operated on. In three cases the operation began as for appendicitis.

History of previous digestive disturbances, onset of very severe pain and tenderness in the epigastrium, failure of morphin to relieve the pain, more or less marked signs of collapse and rigidity of the abdominal walls are the main diagnostic marks which call for an exploratory operation. Disappearance of the liver dulness, distention of the abdomen, marked movable dulness in the flanks indicating much free fluid in the abdomen, leukocytosis and fever are late symptoms, too late to be of much value at a period when diagnosis is most important. In the individual instance it is often difficult to make up one's own mind to advising operation in cases where there is an attack of severe epigastric pain and tenderness, or to persuade the patient's friends to permit operation, at least until much valuable time has been lost in medical treatment. Of course cathartics and lavage of the stomach are especially bad if there really is a perforation. It is impossible to lay down hard and fast rules for those cases which are on the border line of severity. Everything must depend on the experience and judgment of the medical attendant.

THE RELATION OF THE INTERNAL CAROTIDS AND OPTIC COMMISSURE TO THE PITUITARY BODY *

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Since it has been demonstrated that the pituitary body can be operated on by the intra-nasal route, I believe it timely to consider the dangers that could occur from injury to the adjacent structures.

In this region, lying within a few millimeters of one another, we find the internal carotids, the cavernous sinuses, and the optic commissure. The anterior circular sinus located just in front and near the upper part of the pituitary body, if injured, could probably be satisfactorily controlled by pressure.

The distances between these structures vary, owing largely to the different shapes of the body of the sphenoid. The commissure may also be irregularly placed. The internal carotids lie on the inner side of the cavernous sinus in the carotid grooves, which are located on the sides of the body of the sphenoid. Here we have dura between the artery and groove and the dura and sinus lining between the bone and the cavernous sinus.

According to Gray, the optic commissure rests on the olivary eminence and the anterior portion of the diaphragma sellæ. This varies, however, and in one specimen which I have here this evening the commissure is located so far posteriorly that it lies over the dorsum sellæ. By a study of these specimens and a comparison of the measurements that I have taken, it is evident that extreme care must be exercised in any operative procedure in this region. The distance between the inter-

* Read before the Chicago Otological and Laryngological Society, May 16, 1911.

nal carotids varies, but the greatest distance is only a few millimeters on the dried skulls and it is reasonable to suppose that these dried specimens, because of some shrinking, show more room than the living. The optic commissure situated above the diaphragma sellæ would appear to be fairly safe, but the variation in the depth of the pituitary fossa and the different slants of its anterior wall reduce its safety to a minimum.

If the operation were always done on a decided enlargement of the pituitary body, bulging into the sphenoidal sinus or pushing the carotids and optic commissure aside, the danger would be greatly minimized, but even with these structures pathologically forced into safety there still would remain the cavernous sinuses which unfortunately are so firmly attached to the bone that they cannot be pushed aside. The operator must enter the pituitary fossa by going through the sella turcica and not a few millimeters to one side, since here he would break down the back wall of the sphenoidal sinus and against this wall we find the internal carotid and the cavernous sinus. Furthermore, the bone in this region in almost all of the heads examined is thinner than that of the sella turcica and in many of the specimens as though made of the thinnest shell.

My measurements give the distance between the internal carotids, the breadth of the sella turcica, and the distance from the deepest part of the pituitary fossa to the top of the anterior wall of the fossa; in other words, to the posterior edge of the olivary process. Here the diaphragma sellæ is attached and on the anterior portion of the diaphragm rests a part of the optic commissure.

The breadth of the sella turcica was taken as the distance between the carotid grooves. The inter-carotid measurements are as follows and are probably a few millimeters broader than in the living, due, as stated before, to shrinking and also to manipulations tending to separate them.

INTER-CAROTID MEASUREMENTS

- | | |
|------------|--|
| 1.—10 mm. | |
| 2.— 8 mm. | |
| 3.— 8 mm. | |
| 4.—13 mm. | Left carotid very large, coming to 4 mm. of median line. Right carotid well to right side. |
| 5.—7 mm. | Right carotid comes to median line. Left carotid pulled away, but from right carotid to left carotid groove is 7 mm. |
| 6.—10 mm. | Between carotid groove vessels pushed aside. |
| 7.—10 mm. | |
| 8.—12 mm. | Between carotid grooves vessels destroyed. |
| 9.— 8 mm. | 12.—10 mm. |
| 10.—10 mm. | 13.—10 mm. |
| 11.—10 mm. | 14.—14 mm. |

The average of inter-carotid measurements, 9.2 mm.

The breadth of the sella turcica or the distance between the inner margin of the carotid grooves is slightly broader than the inter-carotid measurements. These figures are taken at the widest portion of the base of the fossa and, consequently, fail to show the true width at all points. To illustrate the variations in the distance across the saddle I shall mention an exceptional specimen where the posterior breadth of the fossa

was 10 mm. and the upper part of the anterior wall lying between the carotids only 5 mm. This on horizontal cross-section gives a wedge-shaped body, pointing anteriorly, having a base 10 mm. in breadth and an apex of only 5.

WIDTH OF SELLA TURCICA

1.—12 mm.	6.—10 mm.	11.—11 mm.	16.—12 mm.
2.— 9 mm.	7.—10 mm.	12.—10 mm.	17.—11 mm.
3.—11 mm.	8.—12 mm.	13.—12 mm.	18.—16 mm.
4.— 9 mm.	9.—10 mm.	14.—11 mm.	19.—17 mm.
5.—13 mm.	10.—10 mm.	15.— 9 mm.	20.—13 mm.
Average width of sella turcica, 11.4 mm.			

The length of the anterior wall or the distance from the posterior margin of the olivary process to the deepest part of the fossa is an average of forty-two measurements. These to be appreciated must be closely compared with the specimens.

DISTANCES FROM POSTERIOR MARGIN OF OLIVARY PROCESS TO DEEPEST POINT OF FOSSA

1.— 9 mm.	12.— 8 mm.	23.—12 mm.	33.— 8 mm.
2.— 6 mm.	13.—10 mm.	24.— 9 mm.	34.— 6 mm.
3.— 7 mm.	14.— 7 mm.	25.— 7 mm.	35.— 6 mm.
4.— 8 mm.	15.— 9 mm.	26.— 9 mm.	36.— 9 mm.
5.— 8 mm.	16.—10 mm.	27.— 8 mm.	37.— 7 mm.
6.— 9 mm.	17.— 6 mm.	28.— 8 mm.	38.— 9 mm.
7.— 8 mm.	18.— 6 mm.	29.— 7 mm.	39.—13 mm.
8.— 9 mm.	19.— 9 mm.	30.— 6 mm.	40.— 6 mm.
9.—10 mm.	20.— 9 mm.	31.— 7 mm.	41.— 8 mm.
10.—10 mm.	21.— 8 mm.	32.—10 mm.	42.— 9 mm.
11.— 8 mm.	22.— 8 mm.		
Average measurements, 7.6 mm.			

An interesting point in this group of measurements is that some of those giving the greatest distance are in reality the most hazardous for operating, since the fossæ are extremely shallow and, consequently, the roof and floor of the fossæ are only a few millimeters apart. The optic commissure is, as you see, the structure to be feared in these.

Fourteen of the skulls examined were sufficiently perfect to allow the three measurements to be taken, while in the others only two could be taken and in some cases only one. The following table illustrates this:

Intercarotid.	Sella Turcica.	Distance From Posterior Margin of Olivary Process to Deepest Point of Fossa.
1.—10 mm.	12 mm.	9 mm.
2.— 8 mm.	9 mm.	6 mm.
3.— 8 mm.	11 mm.	7 mm.
4.—13 mm.	9 mm.	8 mm.
5.— 7 mm.	13 mm.	8 mm.
6.—10 mm.	10 mm.	9 mm.
7.—10 mm.	10 mm.	8 mm.
8.—12 mm.	12 mm.	9 mm.
9.— 8 mm.	10 mm.	10 mm.
10.—10 mm.	10 mm.	10 mm.
11.—10 mm.	11 mm.	8 mm.
12.—10 mm.	10 mm.	8 mm.
13.—10 mm.	12 mm.	10 mm.
14.—14 mm.	11 mm.	7 mm.
15.—	9 mm.	9 mm.
16.—	12 mm.	10 mm.

Intercarotid.	Sella Turcica.	Distance From Posterior Margin of Olivary Process to Deepest Point of Fossa
17.—	11 mm.	6 mm.
18.—	16 mm.	6 mm.
19.—	17 mm.	9 mm.
20.—	13 mm.	9 mm.
21.—		8 mm.
22.—		8 mm.
23.—		12 mm.
24.—		9 mm.
25.—		7 mm.
26.—		9 mm.
27.—		8 mm.
28.—		8 mm.
29.—		7 mm.
30.—		7 mm.
31.—		7 mm.
32.—		10 mm.
33.—		8 mm.
34.—		6 mm.
35.—		6 mm.
36.—		9 mm.
37.—		7 mm.
38.—		9 mm.
39.—		13 mm.
40.—		6 mm.
41.—		8 mm.
42.—		9 mm.

The average measurements placed together for comparison are as follows:

Average distance between inter-carotids..... 9.2 mm.

Average distance between carotid grooves..... 11.4 mm.

Average distance from posterior margin of olivary process to deepest point of fossa..... 7.6 mm.

Changes in the shape of the body of the sphenoid give many differences in the relative positions of the structures mentioned, and when it is almost solid and quite thick adds materially to the difficulties presented in the intra-nasal route operation. These can be most safely avoided by the accurate knowledge of their existence and it has been with such a point in view that I have endeavored to give a picture of the anatomy of this region.

Measurements were made in the Anatomical Department of Northwestern University Medical School. I wish to thank Dr. G. D. Scott of the Anatomical Department for his assistance in this work.

LIMITATIONS OF OPHTHALMIC PRACTICE IMPOSED BY CONSTITUTIONAL CONDITIONS *

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The relationship between general medicine and the various special divisions has with the advance of science become closer and closer as the unfolding of etiologic factors are shown to be more and more com-

* Read before the Chicago Medical Society, April 26, 1911.

plex, forcing on our attention the need of aid outside of our own field and clearly within the province of those working in kindred fields.

The ideas here advanced were born of a necessity which every honest thinker in every field must have felt when confronted by an unknown etiologic factor whose expression is localized in his particular field, and it is in the recognition of our own limitations we are better able to appreciate the aid possible from those in other fields.

When one is made to feel the necessity for improvement, he is naturally forced into new channels of thought and will adopt newer methods of examination which may lead to the development of means and the perfection of methods of diagnosis quite beyond our grasp now, and in so doing enable us better to meet the requirements of the hour and fulfill the expectations of that confiding public who look to us with that confidence guaranteed by past achievements to the solution of every problem pertaining to sanitation.

They may and often do, like a spoiled child, resent the best efforts on our part in their behalf, and yet if we are worthy of their confidence and true to our own high aims we will not be deterred from doing our duty by the opposition generated by ignorance and incompetency, for it is only by the effort of all who labor, looking to the ultimate good, that we can hope to accomplish those ideals so necessary in the field of medicine.

The symptoms complex presented in many eye conditions are at times so confusing and inclusive that one can from them read the social and economic destiny of the individual. To illustrate a case in point taken from my own records and which can be duplicated by the records of any oculist of years of experience.

Mrs. A., aged 45 years, married and has four children. Health so far as I can gather from the fragmentary history obtainable on account of inability to make her understand, she being a foreigner, was good up to two years ago. She was brought by a friend seeking relief for a drooping eyelid, which an examination shows is not affected at all but involuntarily closes to shut out the double vision due to a paralysis of the extrinsic muscles of the globe, which together with other symptoms characteristic of that disease we classify as *tabes dorsalis*.

In going into the history of the family and examining each member, I found the husband and two older children free from all evidences of the causative disease; then comes a break, whether due to moral delinquency or an accident I do not know nor does it concern us here, but it marks a tragedy in the lives of individuals whose relation to our great commonwealth are in many respects identical with our own. Here are involved questions which concern not only the individual but that individual in every relation of life, of those two children, in whose faces are mirrored the degeneracy of an inherited condition which precludes the possibility of high accomplishments. Now to whom is the care of an individual of this kind to be committed? A neurologist, genito-urinary man, ophthalmologist or a laboratory expert? Use for all, and all have

not yet answered all questions pertaining to this condition. We don't know what it is; we only know a few of its manifestations.

In considering the ophthalmic practice in relation to constitutional conditions there are several possible classifications. For the sake of brevity I have made two general grand distinctions: First, those due to abnormalities inherited and whose etiologic factors await a solution at the hands of the embryologist and without a word as to their probable origin, we will take one of these conditions as they come to the ophthalmologist. I refer to refractive errors; from an oculist's standpoint almost a question of pure mathematics, from a biologic one an unsolved problem.

Of this condition I can only say the sooner the general medicine man awakens to the necessity of qualifying himself for the correction of ametropia the less will be the necessity for expenditure of time and money to prevent vicious legislation. I think could he only realize how exceedingly easy the acquisition of this knowledge is as compared with so many things he must know in order to meet the demands of the profession he will not only have advanced his own interests and that of the entire profession as well, but will be brought to a fuller realization that the gulf which separates a learned profession from a mere artist in this line cannot be bridged by a few weeks at a school of refraction, and this is especially true when that artist is handicapped by the limitations justly imposed by the state, which denies to him the right to use cycloplegics, drugs, of which he cannot possibly know anything.

The second classification includes all changes post-natal and has several subdivisions:

1. Tumors of all kinds, whether benign or malignant, whose pathology involves the same questions here as they would if met elsewhere.

2. Accidents and their sequelæ.

3. Those recognized and labeled as diseases and which from an oculist's standpoint have been extensively and minutely studied and properly labeled, such as conjunctivitis, keratitis, iritis, choroiditis. The briefest consideration of any of these conditions would consume more time than is allotted to this paper. Take any and all of them when we have named the structure involved and added the suffix for inflammation we have practically reached the limit of our etiologic knowledge based purely on our observations, however much we may know of the various steps of the pathologic process involved. Behind this there is a cause which in most cases is a closed book. Ordinarily, when we give a group of symptoms a name such as measles, scarlet fever, typhoid fever, etc., we have in mind such changes which follow in a definite order with sufficient regularity and traits so characteristic as to be grouped and labeled because of the etiologic factors underlying, which etiologic factors have been traced to certain definite origin and in many cases isolated, in others proven by experimental research.

There is not one belonging to the deeper structures of the eye to which we can point which has a single causative factor that is constant. Not one to which we can say this is due to a single etiologic factor at all

times. When we have made a diagnosis of conjunctivitis, iritis, choroiditis or retinitis, we have only attached labels to symptoms complex, due to etiologic factors of unknown and diverse origin, and these questions can only be settled or successfully treated by the combined efforts of the general practitioner, laboratory man and ophthalmologist, working in harmony and supplementing each other. A diagnosis must be made based on etiologic factors.

These are names not for pathologic entities but for pathologic conditions which may have many and varied etiologic factors.

I know you have been told how to do many things by oculists in the past, yet my effort is to show you where your interests and ours blend and how indispensable we are one to the other; that the successful treatment of these cases often depends not so much on what treatment we give an eye but on the constitutional treatment, which should be for many reasons delegated to the family physician. Some of these cases must be under observation not only for days but for months and years. Who among us cannot recall case after case which has come to us seeking relief from what to them seems only a local condition when in fact it is the local expression of a constitutional trouble.

To illustrate: Dr. Pennington reported a case before this society referred to him by me some years ago of irido-cyclitis whose vision had been reduced to fingers at a few feet, cured by a rectal operation. Dr. Gamble, January meeting, exhibited before the Ophthalmological Society a case of choked disk (neuroretinitis) improved and improving under tuberculin. Woods of Baltimore, before the section on ophthalmology, St. Louis, 1910, cited a case of uveitis due to appendicitis. Morris of New York, a case of choroiditis due to appendicitis. More cases could be cited, the literature is full of them.

My own case, reported by Dr. Pennington, was what forced on my attention the necessity of improved methods of examination in order to classify these conditions. It is not enough in a case of irido-cyclitis due, we will say, supposedly to syphilis or rheumatism to content ourselves with the diagnosis or treatment based on such a history, anti-rheumatic or specific treatment. They may or may not have anything to do with the condition; besides, who of us knows what rheumatism is, or why one case of syphilis should run such a benign course while another is so virulent. Our duty is to uncover if possible the relationship between the condition under observation and the preceding history of the individual, including an analysis of all etiologic factors.

For the past twenty years I have used tuberculin in many cases for many manifestations of diseased condition seemingly in no way related and have had many failures and some surprising results. For some years I have used it in eye, ear, nose and throat conditions with some very satisfactory experiences. I have seen exudates of one kind or another clear up which had resisted treatment for years. This led up to an investigation which is not yet concluded and of which I wish to make a preliminary report to-night.

About two years ago I became satisfied that trachoma was not a merely local condition of the highly contagious character we had learned to regard it. My conclusions were reached while reasoning upon certain gross pathologic appearances and known course of the disease. First, that the adenoid layer was the one primarily involved; second, the cox-combed appearance which seemed so clearly to resemble growths of a tubercular origin in this and other regions. Third, the chronicity of the disease, no period of limitation, ever recurrent paroxysms and whether of the granular or follicular type not very markedly aborted by any known treatment.

The history of cases where one member of a family had suffered for years from trachoma, no other member had shown any tendency to conjunctival trouble but instead were victims of tubercular conditions of one kind or another, and last the existence of unilateral trachoma extending over years without the other eye becoming involved, led me to make a T. B. test and got a reaction followed by the use of tuberculin with marked improvement, seeming cures. I will add I have never during that time met a case of trachoma which did not respond to tuberculin test, nor have I seen one which did not improve under tuberculin therapy.

The proving of this work calls for experts in other fields and when one contemplates the vast amount of work which has been done in the field of ocular research in this disease, I do not expect to find a confirmation except by the use at least of some of those methods which have served me so well.

I shall continue this investigation and hope others may join me so that when the subject is brought up again we may find many who can from personal experience corroborate this report.

DISCUSSION

Fenton B. Turck: Some years ago I carried out a series of experiments in injections of toxic substances in animals, and had Dr. Casey Wood examine the fundus in each one. Our investigations were carried out on a number of dogs, and later we fed them with the colon bacillus. It is very interesting to know that some of the very first changes that occur appear in the fundus. Some of these animals absolutely went blind with hemorrhage into the retina. Some would have "circus disease" or "turn sickness" (walk around and around), then go into convulsions and die. The early changes, however, appeared in the eye, and if you have followed Dr. Casey Wood's work, you know that he refers to this series of experiments which he carried on, and makes practical application of these findings, as have also Dr. de Schweinitz and others.

All experimental work is of no value in itself, but if in addition the clinical findings are in harmony, that is, if there is found to be some relation between the intestinal bacteria and eye, nose and ear diseases in experimental and clinical investigation, then we must accept and act in accordance with the facts.

Since this work was first carried out, I see more and more inclination on the part of advanced men among the eye and ear specialists, to pay more attention to general conditions referring to changes observed in the eye particularly, and I have had opportunities to consult with various ophthalmologists and other men interested in this particular phase. There is one condition called by some "gouty-eye," or uric-acid diathesis (I do not know what the term means except that it might refer to a patient with a general toxic condition) and upon examination

I have found a very high degree of virulency of the colon bacillus. One, coming to me from Dr. Harper, showed this to a very high degree. The fundus showed marked change, but no other cause could be found. Five-tenths c.c. of the colon bacillus injected into a rat would kill it in six hours. The patient was treated by correction of the intestinal disturbance, and all of the eye symptoms disappeared completely.

Last summer I had a patient come from San Antonio to me merely that I might send her to a good oculist for removal of her left eye. Two men had diagnosed glaucoma. I sent the case to Dr. Suker, who did not think it was glaucoma, but considered it a toxic condition, so referred the case back to me. The virulency of the colon bacilli was very high. I carried out a general treatment of the gastro-intestinal tract, injected vaccines of the colon bacillus, corrected the dietetic disturbance, and the eye symptoms disappeared. Correct the cause of the increased bacterial virulency, improve the dietetics, and all the conditions which favor intoxication, and you will improve all the local and systemic manifestations. The evidence seems to indicate that it is due either to the toxins of the food or toxic condition of the metabolism or bacteriologic action.

In the cases which I have examined, I have almost uniformly found increased virulent conditions of the intestinal flora, and by restoring the normal function and using such measures (especially the vaccines) as will decrease the toxic virulency, I have had very good results.

I do not think I neglected the eye as a possible cause of common conditions, such as vomiting, headaches, etc. I have frequently found ocular conditions to be the cause, and patients sent to me for stomach trouble have been found to have muscular trouble which, when corrected, stopped the vomiting.

So, you will see, there is need of changing our thought in regard to these diseases of the eye, nose and ear. There are these conditions which arise from so-called intoxication, that produce these profound effects which can be determined by exact laboratory method. This is a most important subject and the question to be taken up now is the more exact methods and diagnosis and more exact methods in treatment.

CHOLERA INFANTUM *

EUGENE WAHL, JR., M.D.

EDWARDSVILLE, ILL.

In taking up the subject assigned me by our secretary, namely, "cholera infantum," I have taken the liberty of using the term in its broadest sense, so as to embrace all the summer gastrointestinal disorders of childhood.

The nomenclature of our text-books on the subject presents a vast array of terms descriptive of the various pathologic conditions, puzzling to the experienced practitioner, absolutely bewildering to the beginner. I quote from a standard work the following: acute gastritis, acute gastric indigestion, gastroduodenitis, chronic gastric indigestion, diarrhea, acute intestinal indigestion, acute gastro-enteric intoxication, cholera infantum, acute colitis, ileocolitis, chronic ileocolitis, chronic intestinal indigestion, intestinal colic and amebic colitis, each treated under separate head, with its own etiology, symptomatology and treatment.

A classification of diarrheal disorders based on pathologic lesions is undoubtedly very interesting but of value chiefly to the autopsist and

* Read before the Madison County Medical Society, May 3, 1911.

pathologist as they alone are able to demonstrate and differentiate the functional, catarrhal, irritative, toxic, infectious, follicular, ulcerative and membranous inflammations, and even here the findings are very often full of surprises. I remember very well two autopsies I witnessed at the Bethesda Hospital, in which absolutely no pathologic lesions could be demonstrated in the gastro-intestinal tract, after typical cases of gastro-intestinal infection.

Since the findings cannot be predicted with any degree of certainty from the course of the disease, a classification based thereon can hardly be of much service as a guide to either treatment or prognosis.

The etiology of the various disturbances is somewhat clearer, and authorities differ very little in this regard. Congenital predispositions, and a feeble digestive secretion peculiar to some children probably play a part. Prolonged excessive summer heat with a high humidity inhibits digestion so that the amount of fats and proteids easily disposed of during temperate weather overwhelms the digestive powers. It also increases the growth of pathogenic microorganisms, thus causing a rapid contamination of foods.

But first and foremost are errors in feeding, both as to quality and quantity. This applies to both breast- and bottle-fed babies, although the great majority of cases occur among the bottle-fed. It is rarely we see serious cases in the breast-fed babies. This is easily accounted for when we consider the difficulties in the production of a synthetic food suitable to the needs of the infant stomach and the great liability of the bottle-fed to accidental infection.

Both breast and bottle babies are exposed to the dangers of thoughtless but well-meaning mothers and the little tastes of cheese, apple, pudding, cabbage, etc., the persistent and repeated forcing of the breast or bottle at every cry of pain or plea for water often precipitates the trouble at a time when a little care would have allowed Nature to remedy the slight existing disturbance.

Exposure to cold or the ushering in of acute infectious diseases may precipitate an attack of acute indigestion in the absence of any apparent error in diet.

The more severe cases of gastro-intestinal troubles are probably always of an infectious nature, either endogenic or ectogenic, frequently grafted on a simple indigestion. A lowered resistance or alteration of digestive function frequently offers a foothold for bacteria preexisting in the alimentary canal, which under the altered conditions rapidly multiply and assume virulent pathogenic activity. Chief among these are the *Staphylococcus albus* and *fulvus*, *Streptococcus*, and members of the coli group, also the casein ferments such as the *Bacillus subtilis* and *B. mesentericus*.

Cow's-milk is the most prolific source of the ectogenic infections. In addition to the bacterial content which varies in direct proportion to the care exercised in modifying and preserving, old milk may contain and convey tyrotoxicon, a poison capable of causing the most virulent forms of intoxication and against which, when once formed in milk, no amount of sterilization will avail.

A variety of recently isolated organisms closely identified with the bacillus of Shiga have claimants for the chief etiologic rôle in the production of enteric disturbances of children, but so far their constant presence has not been demonstrated.

Whatever the future may reveal, for the present at least the etiology of summer diarrhea in its numerous forms must be regarded as multiplex and more or less obscure as to the true relationship of its numerous factors.

Time will not permit a lengthy discussion of the symptomatology of the many phases of all the gastro-intestinal disturbances. Briefly stated, the great majority of them begin as a gastric indigestion with abdominal pain and distention, elevation of temperature, vomiting, anorexia, thirst, coated tongue, and foul breath. Diarrhea may or may not be present. The vomitus is usually acid and foul smelling and may consist of solidified casein, or in older children undigested particles of other food. The dejections consist of particles of undigested and decomposing food. In infants the attack may be ushered in with convulsions.

The diagnosis is not always easy, as many of the acute infectious diseases are ushered in by gastric disturbances. A history of dietetic error may help us arrive at a diagnosis; in other cases time alone will clear it up.

Gastritis presents very little in addition to what has been said of acute indigestion, and can be differentiated only by the persistence of symptoms and length of the attack, except in those cases in which blood and mucus appear in the vomitus. In gastritis as in acute indigestion caution must be exercised so that we do not overlook a beginning pneumonia or the acute exanthems.

The symptoms of all the intestinal disorders may be considered under the head of enterocolitis. Here again the early symptoms differ very little from those of an acute indigestion, although they may be so slight that their occurrence is lost sight of, and we can elicit no history of any gastric disturbance preceding the diarrhea.

In the simple cases diarrhea may not be a prominent early symptom; in fact there may be constipation with the initial vomiting, but the movements soon increase in frequency and closely follow the ingestion of foods. They may number from five or six to twenty or thirty daily.

At first the stools vary from normal only in being liquid and of a very offensive odor, later they become greenish in color and contain yellowish or whitish curds and particles of tough casein. Bits of mucus may be mixed with the stool, or they may be foamy from the gases of fermentation. Their acid character causes tenesmus and pain, which is in a measure relieved by the evacuation.

If the duration of the attack be prolonged, or the case be one of great virulency, the prostration is marked, the abdomen becomes retracted (in some cases distended), the tissues flabby and shrunk, there may be cervical rigidity, head rocking, exaggerated reflexes, dry tongue, pallid skin, hollow orbits, depressed fontanelles, cold extremities, and shallow, sighing respiration. The stools become very watery and frequent, and contain varying amounts of blood.

Death may occur in from eighteen to twenty hours or be postponed for some days. These overwhelmingly septic cases are the so-called cholera infantum.

The cardinal symptom of an involvement of the terminal portion of the colon is in addition to any or all of the aforesaid symptoms, the presence of varying amounts of blood and mucus in the stool. The blood may vary in quantity from a mere streak, to a stool of almost pure blood and the mucus may be in such quantity as to cause the stool to resemble jelly.

The prognosis in all these conditions depends on, first, the severity of the infection, second, the condition and resisting power of the child, third, the care and intelligence exercised in nursing and treating the patient.

The cases of extreme virulency are fatal in a majority of instances. The milder infections usually recover if conditions be favorable. The age of the child is quite a determining factor in the prognosis. The younger the infant the more likely it is to succumb to even the milder infections. The plump, hearty, breast-fed baby has a vast advantage over the more or less poorly-nourished bottle baby.

The hygienic surroundings are of paramount importance in forecasting the outcome of any of the summer diarrheas. The crowded, vile smelling, germ laden tenement houses of our larger cities are undoubtedly the determining factor in the excessive death-rate in such communities, and other things being equal there is no doubt but that the advantage is all with the children reared in the cool, pure air of the country.

In no other disease, not even typhoid fever, does so much depend on the care and intelligence exercised in nursing. I would rather have the cooperation of an intelligent mother or competent nurse in managing these cases than all the drugs on our shelves. I firmly believe 80 per cent. of all cases would recover without a single dose of medicine, while 80 per cent. would die without intelligent nursing, so the balance is all in favor of the nursing.

In regard to the treatment of the various phases of summer diarrheas, I wish to earnestly plead for simplicity and a more logical line of procedure than we often encounter.

I well remember seeing a child suffering with an attack of acute gastric indigestion faithfully being given seven different kinds of medicine, a dose of some one of them being due every twenty minutes. Is it any wonder that the vomiting continued or that the child was in collapse?

I do not wish to be regarded as a therapeutic nihilist but in these cases above all others promiscuous doping is to be deplored, and I firmly believe much harm is frequently done by the over-zealous physician.

Does it not appear more rational in treating a simple attack of acute indigestion to empty the stomach, either with the tube or by giving copious draughts of warm water, lower the temperature and at the same time wash out the lower bowel with colonic flushing, and then keep the child at absolute rest, in the wet pack if necessary, than to give a dose of oil which is promptly rejected, followed by an antipyretic which produces the same effect, and then vainly try to settle the stomach with

repeated doses of one of the numerous combinations so often used for the purpose?

A dose of calomel or some mild cathartic to thoroughly empty the small intestine, given after all chance of vomiting has passed, is not objectionable, but before that time the stomach should be kept at absolute rest. If a sedative is needed a single dose of bromids and chloral per rectum, or a hypodermic of morphin will quickly produce the desired results. The fever is easily controlled by the wet pack or colonic flushings. A temperature of 105 or 106 may be reduced 3 or 4 degrees in half an hour by a high enema of tepid water gradually reduced to the temperature of hydrant water.

The cause of the trouble should be carefully sought for and remedied; in older children some indiscretion in diet, in the younger usually some error in quality or quantity.

A step by step return to proper diet should be insisted on, albumin water, rice water, or whey, and finally the diet best suited to the needs of the particular case. If we are so fortunate as to hit on the proper combination a great many difficulties are at once overcome and relapses and serious complications are rare.

What has been said of gastric disorders applies equally well to those of the intestines. After vomiting has ceased, large doses of bismuth combined with opium and some intestinal antiseptic or astringent will usually suffice, provided we have allowed nothing of an obnoxious nature to enter the intestine and keep up or aggravate the condition present.

It is in these intestinal cases that the ingenuity of the physician is taxed to the utmost in providing a food suitable to the needs of the child and at the same time one which will not overtax the feeble digestive powers of the disabled intestine. The peptonizing of the entire diet sometimes is of value in these cases, and it may even be necessary to peptonize whey.

However, when the proper combination is once secured, the need for further medication is usually at an end. In obstinate cases if more time and study were devoted to devising various modifications of food and less to compounding prescriptions, a better result might be obtained.

In the toxic cases stimulation is, of course, required, and in those of long duration, or where recuperative powers are below par, iron, cod-liver oil, malt and the various beef preparations are of value.

But above all things the diet must be right, and our inability to always make it so constitutes our chief stumbling block in the successful treatment of the summer diarrheas of children.

—Bubbly fountains are being installed in the new Chicago city hall and in the health department rooms paper cups are in use.

—A county hospital on each side of the city of Chicago is made possible through Gov. Deneen's signing the bill of Representative Jeremiah J. O'Rourke. The bill is the one prepared by Peter Bartzen, president of the county board, to make possible the establishment of branch hospitals in different parts of Chicago.

Official Minutes

OFFICIAL MINUTES OF THE GENERAL SESSIONS OF THE ILLINOIS STATE MEDICAL SOCIETY

MAY 17, 1911—FIRST SESSION

The Society convened in the People's Church of Aurora, and was called to order at 9 a. m. by the president, Dr. A. C. Cotton, of Chicago.

Prayer was offered by the Rev. E. H. Montgomery, pastor of the First Presbyterian Church of Aurora.

Hon. Thomas W. Sanders, mayor of Aurora, was introduced, and delivered the following

ADDRESS OF WELCOME

Mr. President, Ladies and Gentlemen of the Illinois State Medical Society: It is a real pleasure to me to welcome you to Aurora to this your sixty-first annual meeting. I know it is the custom on such occasions as this to deliver the keys of the city to some responsible head of such an organization, and in looking about for such responsible party, I was attracted by the venerable appearance of your president, Dr. Cotton, and fortified by some nice things some of his friends locally had said about him, I think I can safely entrust the keys of the city to him, with one restriction, however, Doctor, and that is that during your custody of that key, I wish to exact this promise from you, that you do not entrust it to your secretary. (Laughter.) Your honorable secretary, Dr. Weis, I have known for a long time; in fact, we were old friends and townsmen in Ottawa, and he once took unfair advantage of me when I was a boy and acted as an apprentice in a drug store, and I have that old score to settle with the doctor, and for that reason I am going to exact that promise of you. But Dr. Weis put me to the task years ago, when I was an apprentice in a drug store, of reducing to a fine powder equal parts of chloral hydrate and camphor gum (applause), with careful instructions to rub vigorously in a certain direction, and you all know the result. The resultant liquid was no joke to me, but it was to the doctor. (Laughter.)

But speaking seriously, gentlemen, we are especially glad to welcome you to Aurora. We feel that your profession is one of paramount importance to the nation. The greatest asset that any country can possess is the good health of its people, and the physician is the custodian of that asset. The banker cares for the wealth of the nation, while the physician cares for the health of the nation. Without good health, there is

no human energy, and human energy is the thing that accomplishes all of the great works for which the world has become famous. To the busy physician we realize that life offers but very few opportunities for recreation and rest, and it is a good thing when a convention calls you away from your home city, where you can hardly evade, even if you wish to, the responsibilities and cares of your patients, but a meeting like this takes you away from your home for a number of days of relaxation and recreation. We are very glad to welcome you to our city. We hope your stay here will be very enjoyable. We hope you will enjoy the hospitality of the citizens of Aurora. We hope your deliberations will be filled with ideas profitable to you in your profession, and that you will like us so well that you will see fit to come back again at a future date. (Applause.)

Address of welcome by Dr. C. H. Franz, president of the Fox River Valley Medical Association for Kane County.

Mr. President, Honorable Mayor, Ladies and Fellow-Physicians: You have just heard a speech by his honor, the mayor. It is practically my speech and my subject to the letter. He has expressed my sentiments clearly and thoroughly, so that now little remains for me to say. However, you will permit me, I trust, in the name of the Fox River Valley Medical Association, as its president, to extend to the assembled physicians and surgeons a hearty welcome. We are pleased at the great number that is present here to-day, and we hope to make it agreeable to you visiting physicians who have come here from near and far distant towns and cities to fraternize with us here in our beautiful city of Aurora. Ladies and gentlemen, we do not intend to receive you with a lot of pomp and brass-band noises, because there is no significance in that to a body of medical men, but we truly intend to receive and entertain you royally. We, therefore, extend to you our hand of goodfellowship, and instead of firing compliments, we propose to show you in a practical way our hearty appreciation of your visit with us in Aurora during this convention. Consider yourselves, therefore, under our charge and care while you remain with us, for to you we surrender unconditionally the keys of the town, as his honor the mayor remarked a moment ago.

In welcoming you, gentlemen, we welcome courage, efficiency and skill. This statement I make from scanning the faces here of the many medical authorities and the leading surgeons of the state, and also noticing from the program the extensive and important business and the array of scientific papers to be read and discussed by the leading notables of the state and abroad. So, hence, not wishing to encroach any further on your valuable time and on the program, in conclusion I wish to say that we hope to make your sojourn with us here in Aurora during this convention as agreeable to yourselves as it will be gratifying to the Fox River Valley Medical Association and the community at large. I thank you. (Applause.)

RESPONSE TO THE ADDRESSES OF WELCOME BY PRESIDENT COTTON

Mr. Mayor, and members of the Illinois State Medical Society: In looking into the eyes of his honor the mayor, I am sure that he thinks he has been well advised when he put the keys of the city of Aurora into the hands of a representative of this society. Wisely, though, he has made some restrictions, some exemptions—in other words, he knows Weis (laughter). He lived in the same town with him. This reminds me of the enthusiasm of a mayor of an Illinois city some dozen years ago, who was a candidate for reelection, I believe. If I am not right, we may secure a correction from Dr. Weis and from Dr. Pettit and others of that community. He so enthusiastically placed the keys of the city in the hands of the society that the discussion thereon has not yet ceased, on account of the privileges that the Illinois State Medical Society took with the favored products of the vicinity of Ottawa. (Laughter.) It seems that the week following the homeopaths had a state convention in Ottawa, and about the time the good people of Ottawa got fully discussing the opinions of the homeopaths, they were there to lay the blame on, and thus once more science triumphed over homeopathy.

In visiting your city, Mr. Mayor, I see the Program Committee have placed on the program a beautiful design—the rising sun, the Aurora, and I felt very much enthused, first, when I heard that the state society was going to Aurora; and, second, when I again saw that motto, the rising sun. It meant something to me. It seemed to me the dawn of a time when the profession of Illinois would be united in one earnest purpose to achieve all the splendid results that a united profession may achieve for the people of Illinois, for the people of the world, and for the profession of Illinois. (Applause.)

By nature, I am an optimist. Some of the members asked me whether I was not discouraged last night. Not at all. The birds sing, the trees glisten, the very grass laughs after the storm. We must needs have storms, and the little cyclone, as it was called by one of the delegates, is nothing more than a little electricity escaping to clarify the atmosphere. I believe every member here will live to see the time when the profession of Illinois will forget the little things. The medical profession is organized for two purposes: one, a scientific purpose, represented by this filled auditorium, the other for the militant energetic purpose of reform, which created such an interest in the House of Delegates last night. Both are worthy of study and of our best efforts. I believe the time is not far distant when we will all be working together harmoniously. I thank you. (Applause.)

REPORT OF THE COMMITTEE ON ARRANGEMENTS

Dr. J. W. McDonald, of Aurora, chairman of this committee, made the following report:

Mr. President, Members of the Illinois State Medical Society: Your Committee on Arrangements begs leave to report that they have spared

neither labor nor expense to make your stay in this city as pleasant and as profitable as possible. They have provided ample accommodations for all the visiting physicians and their friends. There are still plenty of rooms at the hotels and any number of rooms are to be secured in private homes.

Your committee has secured this building for the scientific sections and for the exhibit, believing it was advantageous to the exhibitors to have the hall in close proximity to the scientific sections. We have also secured the First M. E. Church for the House of Delegates, and we believe that there is especial benefit in so doing, because that institution will have some effect in prohibiting the employment of strong adjectives which may be necessary in driving home some points in parliamentary procedure. (Laughter.)

The committee have made ample provision, especially for the entertainment of the ladies. To-day at 12:30 the wives of the physicians in attendance are to be entertained by Dr. Knight at her home, assisted by Dr. Slater. At 3 o'clock the visiting ladies will be entertained at a musicale at the Y. W. C. A.

To-morrow morning at 10 o'clock there will be an automobile ride from the home of Mrs. Dr. Sherman, to be followed by a breakfast at 12 o'clock at the Y. W. C. A. rooms.

This evening at 8 o'clock the physicians of Aurora will tender to the visiting physicians and their friends at the Elks' clubrooms a reception and ball. We are assured that this will be one of the important things, one of the things you will be very glad indeed to be present at.

I appreciate more than the other members of the committee the responsibility which rests on the chairman of this committee, having in mind the promises I made to you at Danville, and that when you go home we hope you will say that we have made good in every particular. We hope your visit will be most profitable and pleasant, and that it will be one of the best you have ever experienced at a meeting of this kind. (Applause.)

Adjourned.

Immediately after the adjournment of the general session, the scientific sections were called to order and proceeded with the reading and discussion of papers.

MINUTES OF SECTIONS ONE AND TWO

Chairman of Section One—Dr. J. E. Coleman, Canton. Secretary—Dr. E. B. Cooley, Danville.

Chairman of Section Two—Dr. Allen B. Kanavel, Chicago. Secretary—Dr. M. P. Parrish, Decatur.

Dr. Coleman, in calling the sections to order, said: We have found it advisable to unite sections one and two because we think in that way we will get the most good for all parties concerned. There are many physicians who are doing a little surgery, and there are lots of surgeons who are beginning to find it necessary to know a little about med-

icine, and we hope by uniting the two sections we will gain valuable and useful information from both.

It is my pleasure to introduce to you Dr. Allen B. Kanavel, Chicago, chairman of section two, who will take charge of the meeting.

Dr. Kanavel called for the reading of the first paper, which was by Dr. Charles F. Read, Watertown, entitled, "The Medical Service of the Illinois State Hospitals," which was discussed by Drs. Taylor, Patrick, Pettit, Black, Grinker, and the discussion closed by the author of the paper.

Drs. V. D. Lespinasse, G. Carl Fisher and J. Violet, of Chicago, contributed a joint paper entitled "Experimental Transplantation of Legs," which was discussed by Drs. Cubbins, Beck, and the discussion closed by Dr. Lespinasse.

Dr. Thomas A. Woodruff, of Chicago, read a paper entitled "The General Practitioner and Preventable Blindness," which was discussed by Drs. Smith, Adams, Burr, Reynolds, Garrison, Wilder, and in closing by the author of the paper.

Dr. Alice Conklin, of Chicago, read a paper entitled "Vesico-Vaginal Fistulæ."

Dr. Aimé Paul Heineck, of Chicago, followed with a paper entitled "Ovarian, Tubal and Tubo-Ovarian Hernias."

Dr. Carey Culbertson, of Chicago, read a paper entitled "The Puerperium Treated as a Period of Prophylaxis Against Subsequent Abdominal Pelvic Diseases."

Dr. Henry T. Byford, of Chicago, read a paper on "The Abuse of Local Treatment in Gynecology."

The discussion on these papers was opened by Dr. Watkins, and continued by Drs. Will, Beck, Collins, Fuller, and the discussion closed by the authors of the papers.

Dr. J. E. Miller, of Pittsfield, read a paper entitled "Intestinal Strangulation with Report of Cases."

This paper was discussed by Drs. Harsha, Collins, Percy, and in closing by the essayist.

Dr. C. B. Johnson, of Champaign, read a paper entitled "The Health Conscience and Drink."

The next order was a symposium on the kidney; late methods and diagnosis of kidney diseases.

Dr. Herman L. Kretschmer, and Dr. L. E. Schmidt, of Chicago, contributed a joint paper entitled "Functional Diagnosis."

Dr. Arthur R. Elliott, of Chicago, read a paper entitled "Some Insufficiently Appreciated Points in Urinary Diagnosis."

Dr. L. W. Bremerman, of Chicago, read a paper entitled "The Diagnosis and Treatment of Infections of the Renal Pelvis."

Dr. G. E. McClelland, of Decatur, read a paper entitled "Eye Findings in Renal Diseases."

Dr. E. Mammen, of Bloomington, read a paper entitled "Unilateral Pyelonephritis."

Dr. P. S. O'Donnell, of Chicago, read a paper on "The Value of Skiagraphy in Diagnosing Renal Disease, Especially Renal Calculi, and the Importance of Radiographs Showing Lead Line Catheter in Situ for Differentiating Ureteral Calculi from Phleboliths."

Dr. Dean D. Lewis, of Chicago, read a paper entitled "Double Hernial Sacs," which was discussed by Drs. Cubbins, Graham, and the discussion closed by the essayist.

Dr. Milton H. Mack, of Chicago, read a paper entitled "Intestinal Toxemia," which was discussed by Dr. Brown, and in closing by Dr. Mack.

Dr. M. S. Marcy, of Peoria, read a paper entitled "Arteriosclerosis."

This paper was discussed by Drs. Hultgen, Earle and Boughton.

Dr. Frederick Tice, Chicago, read a paper entitled "The Clinical Determination and Significance of Some Peripheral Signs of Aortic Insufficiency."

Dr. Roswell T. Pettit, of Ottawa, read a paper entitled "Studies of Mixed Infections in Pulmonary Tuberculosis, Their Diagnosis and Treatment."

This paper was discussed by Drs. Hultgen, Boughton and Keyes.

Dr. F. A. Besley, of Chicago, read a paper entitled "A New Theory as to the Mechanism of Skull Fractures, and an Analysis of One Thousand Cases."

This paper was discussed by Dr. Ferguson.

Dr. John G. Clark, of Philadelphia, delivered the oration in surgery. He selected for his subject "Uterine Hemorrhages; Their Diagnostic Aspects," which was illustrated with numerous stereopticon slides.

Dr. William E. Quine, Chicago, followed with the oration in medicine, his subject being "Some Gifts of Medical Science to the World."

The president, Dr. A. C. Cotton, of Chicago, delivered an address on "Conservation."

At the conclusion of President Cotton's address, Secretary Weis presented a summary of the business transacted by the House of Delegates. (For full report, see the minutes of the House of Delegates.)

The retiring president, Dr. Cotton, introduced his successor, Dr. Newcomb, who said: I regret that I have not language at my command to express to you in the degree I feel my obligations to this society for the great honor that it has conferred on me. I feel, indeed, it is a great honor. To me it represents the climax of human ambition. I can think of no other position I would prefer to have. I would rather be president of the Illinois State Medical Society than to be president of any organization I know of, and I would rather be president of this society than to be president of any organization, either professional or political, in the gift of the people.

With regard to what I can do in the coming term, of course, that will depend on the support that I receive from the members. I trust the support will be as loyal to me as it has been to other officers in the past, and I assure you I will do the best I can to make you a good presi-

dent. I have no misgivings. The chair that has contained Cotton will be plenty large enough for me, but I will do the best I can to fill it and to fulfill the obligations of the office. (Applause.)

SYMPOSIUM ON CANCER

Dr. Maximilian Herzog, of Chicago, read a paper entitled "Cancer in Animals," which was illustrated with lantern slides.

Dr. F. H. Zeit, of Chicago, read a paper entitled "Cause and Prevention of Cancer."

Dr. S. C. Stremmel, of Macomb, read a paper entitled "Surgical Treatment of Cancer," after which the sections adjourned *sine die*.

ILLINOIS STATE MEDICAL SOCIETY

OFFICIAL MINUTES OF THE HOUSE OF DELEGATES

LIST OF DELEGATES

Adams, J. H. Rice.....	Quincy
Alexander, W. F. Grinstead.....	Cairo
Bond, not represented.....	
Boone, Willis Butterfield.....	Belvidere
Browne, not represented.....	
Bureau, J. H. Franklin.....	Spring Valley
Calhoun, W. A. Skeel.....	
Carroll, not represented.....	
Cass, J. G. Franken.....	Chandlerville
Champaign, John Martin.....	Tolono
Christian, not represented.....	
Clark, Lester H. Johnson.....	Casey
Clay, not represented	
Clinton, Sam H. Wilcox.....	Carlyle
Coles, R. J. Coultas.....	Mattoon
Cook, (See Chicago Medical Society).....	
Crawford, H. N. Rafferty.....	Robinson
Cumberland, not represented	
DeKalb, C. H. Mordoff.....	Genoa
Dewitt, O. B. Edmunson.....	Clinton
Douglas, John Ewing	Tuscola
Edgar, C. L. Kerrick.....	Paris
Edwards, C. S. Brannan.....	Albion
Effingham, C. F. Burkhardt.....	Effingham
Fayette, L. L. Morey.....	Vandalia
Franklin, C. M. Thornton.....	Mulkeytown
Fulton, W. E. Shallenberger.....	Canton
Gallatin, Geo. W. Combs.....	Ridgeway
Greene, H. A. Chapin.....	Whitehall
Grundy, F. A. Palmer.....	Morris
Hamilton, H. E. Hale.....	McLeansboro
Hancock, not represented.....	
Hardin, not represented	

Henderson, J. P. Riggs.....	Media
Henry, not represented.....	
Iroquois-Ford, W. O. Hall.....	Paxton
Jackson, not represented.....	
Jasper, not represented.....	
Jefferson, W. G. Parker.....	Texico
Jersey, not represented.....	
Jo Daviess, I. C. Smith.....	Stockton
Johnson, not represented	
Kane and McHenry, George F. Allen.....	Aurora
Kankakee, not represented	
Kendall, R. A. McClelland.....	Yorkville
Knox, W. O. R. Bradley.....	Galesburg
Lake, W. H. Watterson.....	Waukegan
La Salle, W. O. Ensign.....	Rutland
Lawrence, E. M. Cooley.....	Lawrenceville
Lee, not represented	
Livingston, C. H. Barr.....	Dwight
Logan, C. B. Caldwell.....	Lincoln
McDonough, S. C. Stremmel.....	Macomb
McHenry, Geo. McLane	Harvard
McLean, Edwin P. Sloan.....	Bloomington
Macon, E. J. Brown.....	Decatur
Macoupin, J. S. Collins.....	Carlinville
Madison, E. W. Fiegenbaum.....	Alton
Marion, H. E. Wilson.....	Centralia
Marshall-Putnam, E. S. Gillespie.....	Wenona
Mason, not represented	
Massac, not represented	
Menard, not represented	
Mercer, A. N. Mackey.....	Aledo
Monroe, not represented	
Montgomery, not represented	
Morgan, E. L. Crouch.....	Jacksonville
Moultrie, W. P. Davidson.....	Sullivan
Ogle, J. M. Beveridge.....	Oregon
Peoria, G. W. Parker.....	Peoria
Perry, not represented	
Piatt, not represented	
Pope, not represented	
Pike, J. E. Miller.....	Pittsfield
Pulaski,, M. L. Winstead.....	Ullin
Randolph, not represented	
Rock Island, J. R. Hollowbush.....	Rock Island
St. Clair, not represented	
Saline, not represented	
Sangamon, Geo. N. Kreider.....	Springfield
Scott, Jas. Miner	Winchester
Shelby, not represented	

Stark, M. T. Ward.....	Toulon
Stephenson, D. C. L. Mease.....	Freeport
Tazewell, F. C. Gale.....	Pekin
Union, not represented	
Vermilion, S. Jones	Danville
Wabash, not represented	
Warren, Chauncey Sherrick	Monmouth
Washington, C. J. Saunders.....	
Wayne, not represented	
Whiteside, J. A. Nowlen.....	Morrison
White, Frank C. Sibley.....	Carmi
Will, Wm. N. Curtis.....	Wilmington
Williamson, J. G. Parmley.....	Marion
Winnebago, Chas. E. Crawford.....	Rockford
Woodford, not represented	

CHICAGO MEDICAL SOCIETY

DELEGATES

C. H. Parkes	G. F. Schreiber
E. L. Lobdell	C. D. Pence
J. R. Robison	C. E. Humiston
C. F. Roan	Alice Conklin
C. B. King	R. Wheeler
J. A. Clark	C. R. Moore
H. Betz	M. G. McHugh
K. A. Zurawski	A. M. Corwin
C. H. Miller	A. W. McLaughlin
J. E. Stubbs	A. M. Harvey
E. M. Webster	B. Van Hoosen
J. S. Kauffman	

ALTERNATES

T. F. O'Malley	G. Amerson
W. L. Noble	J. W. Van Derslice
L. L. Wynekoop	J. H. Edgecomb
Dr. A. C. Cotton.....	President
Dr. E. W. Weis.....	Secretary
Dr. J. E. Coleman, Chairman Section 1.	
Dr. Allen B. Kanavel, Chairman Section 2.	
Dr. Harold N. Moyer, Chairman Medico-Legal Committee.	
Dr. L. C. Taylor, Chairman Medical Legislation.	
Dr. J. W. McDonald, Chairman Committee on Arrangements.	

COUNCILORS

D. G. Smith, Chairman Secretaries Conference.	
E. Mammen, Chairman Committee Medical Education.	
Frank Norberry, Chairman Committee Public Policy.	
M. L. Harris	J. F. Percy
J. W. Pettit	J. Q. Roane
C. E. Black	J. Whitefield Smith
J. H. Stealy	H. C. Mitchell
	W. K. Newcomb

MAY 16, 1911—FIRST SESSION

The House of Delegates met at the M. E. Church, and was called to order at 9:30 p. m. by the President, Dr. A. C. Cotton of Chicago.

Dr. A. M. Harvey, chairman Committee on Credentials, made a preliminary report, and stated that the committee had passed the chairmen of the standing committees until tomorrow, when the committee would hold another meeting to revise the credentials to that date.

Secretary Weis called the roll, and ninety-six delegates responded.

The President stated that the first thing in order was the reading of the minutes of the House of Delegates of last year.

Dr. W. O. Ensign of La Salle County stated that the minutes had been published in the ILLINOIS MEDICAL JOURNAL, and moved that the reading of them be dispensed with. Motion seconded.

Dr. Crawford of Winnebago County moved as an amendment that the minutes of last year be referred to a committee, inasmuch as there seemed to be some controversy as to their accuracy, to report back to the House of Delegates, in order to save time in reading them. Motion seconded.

Dr. Ralph Wheeler, of Cook County, doubted whether a motion to refer the minutes to a committee was in order, on the ground that these minutes could be approved only by the House of Delegates; consequently he thought both motions were out of order, inasmuch as the Chair had said the first order was the reading of the minutes. He asked for a ruling on this point.

The President ruled that the House could do anything it pleases with its minutes.

Dr. Wheeler did not think that all of the members had read the minutes as published in the JOURNAL of the Society, and he thought there were but few members of the House of Delegates who were in a position to state what there was in the minutes. He made the point of order that the House could not dispense with the reading of the minutes without unanimous consent.

After further discussion by Dr. W. L. Noble, of Cook County, Dr. W. O. Ensign, of La Salle County, and Dr. Burkhardt, of Effingham County, the President reiterated his ruling that the House could do what it pleases with its minutes.

Dr. Wheeler then asked whether the adoption of Dr. Ensign's motion would carry with it the approval of the minutes as published in the ILLINOIS MEDICAL JOURNAL.

The President replied by saying that Dr. Wheeler could interpret that as he pleased.

The President then put the motion of Dr. Ensign, and declared it carried.

Dr. James E. Stubbs, of Cook County, demanded a roll-call.

The Secretary called the roll, with the result that there were fifty-four yeas in favor of the motion and forty against it.

The President thereupon declared the motion of Dr. Ensign carried.

The President called for the report of the Committee on Scientific Work.

Secretary Weis read the minutes of the meeting of this committee, which required no action.

The report of the Committee on Public Policy was called for.

Dr. A. M. Harvey, of Cook County, a member of the committee, said this committee had no report to make.

The report of the Committee on Medical Legislation was called for.

Dr. L. C. Taylor, chairman, asked for an extension of time, which was granted.

Dr. Taylor asked whether the chairmen of standing committees were members of the House of Delegates. He thought this would be a good point to settle at this time.

The President stated that, according to the Constitution, the chairmen of standing committees were members, ex officio, of the House of Delegates, and so ruled.

Dr. J. F. Percy, of Galesburg, read the report of the Committee on Medical Education.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION

To the House of Delegates of the Illinois State Medical Society:—Medical education in the state of Illinois is fortunately segregated within the confines of the city of Chicago. Your committee takes pleasure in recalling the fact that its report of medical college conditions in that city prepared for the Quincy meeting of this Society in 1909, antedated the now celebrated Flexner report by one year. The difference between the Flexner report, however, and that of your committee was that the former was published and the latter was not. Your committee, in 1909, visited all of the medical schools of Chicago, and prepared a report that would have opened up the whole subject of medical education as it was found at that time in Illinois. But the exigencies of politics seemed to make it imperative that it should not be published, and it was not. In its place was made a report that was non-committal in the extreme, and which now occupies just seventeen lines on page 62 of volume 16, Transactions of this Society (1909).

For the purposes of our report, your committee again visited all of the schools granting the medical degree in the city of Chicago; they have also gathered data from the schools which do not have the legal right to grant the degree of M.D., but which, nevertheless, are turning out practitioners of medicine who prey upon an unsuspecting public, and at the same time enter into competition with every member of this society who is legally recognized by the state, and who is legitimately earning his bread on the basis of such legal recognition. Curiously enough, there are thirteen schools in Chicago which have no legal or moral right to teach medicine, but which are doing so. There are six that may teach medicine if they are so minded. Whether the number of the graduates of the former also outnumber those from the legally recognized schools, your committee could not learn. Our impressions are, however (and these were gained mainly from correspondence and perusal of their published statements to would-be matriculants) that the number is as great, or greater, than the whole number properly graduated in the city of Chicago with the degree of M.D. in any given year.

Medical education has become one of the problems, as well as one of the privileges of this great state. The problems, however, overshadow the privileges. It is but a trite saying when your committee insists that conditions and demands in this line of education have markedly changed in the last twenty years. Equally

trite is the statement that there are, at the present time, in the medical educational field, two forces at work—the old and the new. This is true not only in Illinois, but in other states, as far as we have taken care to learn. One of these forces is represented by those who, on the basis of higher standards, not only for admission, but for its acquirement after admission as well, are trying to limit the number of those who would enter it as a life occupation. On the other side are the forces which, although ostensibly committed to the side of higher standards and a better education as a means of improving the quality of medical practitioners are in no way following this plan honestly. As a result, we find, not only in this state, but in other states, schools which are in every way faithfully striving to improve the character of medical education being brought into competition with the schools that are doing and will do only the things they are compelled to do to better medical conditions in this country.

In Chicago, your committee found three classes of schools. In the first class are those which are endeavoring to improve medical education all along the line; in other words, maintain and comply with the best standards in this country and abroad. In this division we would put the Northwestern, Rush, and the College of Physicians and Surgeons. In the second division are the schools which are doing only what they are compelled to do in order to get their graduates past the various state examining boards. These are the Chicago College of Medicine and Surgery, and Bennett Medical College. The Hahnemann Medical College and Hospital would probably come in this list, but, as your committee were refused admission to the institution by its officers, we cannot describe its exact status from personal observation. In passing, it might be well to state that your committee was received cordially, and in a fair and above-board manner by all of the schools except the one just mentioned. Bennett Medical College also exacted a little extra toll of this society by requiring that we notify its officers when we were coming. In this way, we were admitted on our third visit to the city of Chicago for the purposes of this report. We might further state that your committee's plan of examining the Chicago Medical Schools was merely on a physical basis. What we could see with our eyes, as to equipment, determined for this report the status of that school to teach the art and science of medicine. We made no attempt to investigate the personnel of the professors or students in these schools. And they will not be mentioned in this report again, except incidentally, in order that we may make clear what is said.

The third classification that we would make is of those schools which by any stretch of the imagination cannot (at least so your committee believes) in any way teach medicine as that subject is understood to-day. Under this classification we believe can be placed the Hering Medical College, College of Medicine and Surgery, Jenner Medical College, and Reliance Medical College, also the National Medical University. A very proper subdivision of this third classification would also include the following institutions: Littlejohn College and Hospital (osteopathic), Illinois Kiro-Practic University, National School of Chiropractic and Physiological Adjustment, McCormick Neurological College (their stationery reads McCormick Medical College), Oakley Smith College of Naprapathy, American College of Mechano-Therapy, Northern Illinois College of Ophthalmology and Otology, Chicago School of Optical Science and Mental Therapeutics.

There are others that are sending out men and women to compete with the physicians from whom the state exacts everything in the way of legal requirements; but these are enough, we are sure, to prove our contention, which we hope to make plainer as we proceed, viz., that the physician who complies with all the requirements of the Illinois law on medical education, when he goes into practice, finds in competition with him almost every known form of medical misalliance that it is possible for the mind of man to conceive. More than this, he finds that he has no legal protection against them. This is one of the curious phases of our legal system, as applied to medicine. If you are honest, you are compelled to obey the law. If you are dishonest enough to try to evade the law, you can do it with impunity, so far as the practice of medicine is concerned.

and none of the constituted powers of the state will seriously interfere with you. This, in its essence, is the relative relationship between the regular and the irregular practitioners of medicine in Illinois to-day.

Before proceeding far along this line of thought, however, it might be well for us to try to constructively discuss some of our problems in relation to the three classes of schools to which we have already referred. In order to do this, we must, of necessity, be somewhat discursive. Your committee believes that the most important thing in furthering a high standard of medical education in this country is in the entrance requirements to the schools of medicine. And it is just here that your committee finds that all attempts at regulating the study and practice of medicine break down. There are absolutely no uniform entrance requirements anywhere in this country that are lived up to. Each school is practically a law unto itself in its interpretation of medical college entrance requirements. The four years high school diploma, as a prerequisite for the study of medicine, would be a really funny joke if it were not for the fact that your committee do not want to put themselves in the attitude of making jokes about a rule that ought to be seriously considered, because the consequences of the breaking down of this standard in this country to-day leave us, in comparison with the rest of the world of medical education, about where we were twenty-five years ago. The proprietor of every school in Chicago which we have put in classes two or three, bragged to us that they were living up to the four years high school standard of entrance requirements. Two of these schools had, among the students whom we saw in the classes during our visit, the same kind of looking Negroes, Mexicans and whites that one can find any day working as section hands on our American railroads. To say that the appearance of any one of the students just mentioned impressed your committee intellectually as possessing the literary and scientific requirements which would entitle them honestly to a four years good high school diploma is drawing on our credulity to the breaking point. And yet these people are going out from those schools and competing with the men and women who have spent years in fulfilling all the requirements of the higher medical educational standards which are supposed to guide state examining boards in admitting one to the practice of medicine. The treasurer of one of these schools in classification three, which has the degree giving power, told us that not one of their students had ever been turned down by any state board. We do not believe he was lying, because he did not impress one as belonging to the class who find it necessary to lie when discussing the ordinary affairs of life. This statement—that none of their students had ever been rejected by any state examining board—is also made in the catalogue of the medical department of Western Reserve University of Cleveland. All of which merely emphasizes what we have already referred to in this report, the qualified practitioner, either from the length of time he has practiced, or this plus a good preliminary education both literary and medical, is forced to compete with the recent, the new, the ignorant, and the unqualified. His standing before the law is not one whit different than that of the low-grade graduate from a low-grade school.

Right here it might be well to mention another curious legal twist, viz., that preliminary medical standards as they are applied, do not include the graduate of a few years ago, no matter how high his preliminary education was, either literary or medical. We refer to the time before State Board examinations were demanded as a prerequisite to practice medicine in a given state. These older graduates cannot change their location into another state without passing an examination on many subjects that no longer vitally concern their success as practitioners. As far as being members of the medical profession is concerned, they have no more legal rights than the Russian serf who cannot go outside of the confines of his county without a passport. And yet, this physician, no matter how distinguished his attainments may be, sees the graduates of these low-grade schools (to say nothing of the other grades) being given the right practically to go anywhere they please to practice medicine, and that, too, by the

same Board that gave him the same kind and form of state certificate years before. We believe that this is class legislation, and that some day the courts will so decide it.

We have space but for two illustrations of the contention of your committee that the entrance requirements in this country, preliminary to the study of medicine, are a farce. One concerns one of the Chicago Medical Colleges which we have put in the second class. Last year this school admitted thirty students, at least so we are reliably informed, after sending for an ex-Superintendent of Public Instruction of a neighboring state to examine them. This ex-Superintendent used the official blanks of his state, and every one of the thirty would-be physicians was admitted to the study of medicine in Chicago. The natural query for us at this time is, why was it necessary to import a foreign examiner when the State Superintendent of Public Instruction of Illinois, by the law which went into effect July 1, 1908, is required to issue a "certificate of preliminary education for matriculation in any medical college in the State of Illinois." Was it because the Superintendent of Public Instruction in Illinois was not lenient enough in these examinations for the purposes of this school? Your committee believe that the present examinations under the deputies of the Superintendent of Public Instruction of this state, Mr. W. E. Watt and Mr. Peter A. Downey, have placed these examinations on a high, dignified and safe basis. But, unfortunately, this can be said of their examinations only recently. Before this, practically anyone could get these certificates from these examiners; even children in the eighth grade of the Chicago Public Schools were often given them. More than this, no means were taken to guard against the forging of the names of these examiners to these certificates. At the present time, the examinations are given twice a year, and three days are taken for the examinations. One of the schools in Chicago has, as a very convenient appendage, a so-called classical school. It announces in its prospectus: "Special training for students desiring to enter Medical College, Law College, Engineering, Dental College, Pharmacy School, College or University." They also give an "At Home Study Correspondence Course," of which their announcement makes the significant statement that the students who find it impossible to attend the school proper, "can derive the same results through the medium of" this home study course. Your committee believe that the whole outfit behind this and similar schools is legally and morally crooked; that they are in the business of medical education for the money that is in it directly, and indirectly for the business that comes from the public and the students because of their connection with these schools. This statement takes no account of the young men and women who are inveigled into the practice of medicine by the delusive methods of those who are behind these schools. It will be not without interest to this report when we add the statement that in this room, at the present moment, are representatives of these low-grade schools who are here in this House of Delegates only for the purpose of heading off and protecting, if necessary by legal means, their schools from any harm that this report may have on the nefarious work of their institutions. If this committee should report at this time what they know as to the intimate relation that these schools have with the proprietary interests, together with the low-grade medical journals, it would add a number of thrills to this report.

Another phase of this subject that has come out in the course of our investigations, and on which we will make no comment, is the alliance already formed between these schools and the interests that are promoting fake schools for the training of nurses. This part of the subject, however, we will leave for the Illinois State Board of Examiners for Nurses. We learned, incidentally, during our second tour of investigation to Chicago, that what we had done and said at our first visit was quite correctly known to those we visited at the second time. At our third visit, what transpired at our second visit was also known. This merely showed an alliance between these schools; its character, we can only surmise.

All of those connected with these low-grade schools were a unit in condemning the committee on medical education of the A. M. A. This also reminds

us that in one of the night schools, which we visited on a former occasion, we found a gentleman who has been very active in the present disorganization of the Chicago Medical Society, who was and is very free with his criticisms of the American Medical Association. This physician, after apologizing to your committee for his presence in the school as a teacher, made the significant remark, "I am sorry to meet you fellows here, but I get five plunks for two lectures a night, twice a week, and I need the plunks."

So much for the entrance requirements from the low-grade standpoint. Let us view the other side, the side that poses as high-grade. If we are not mistaken, the Flexner report gave the University of Wisconsin an almost perfect score among all the Universities in this country, on the basis of rigid entrance requirements; and, with this, practically perfect ability to take care of the student in an ideal way after he had passed the University entrance requirements. The Western Reserve Medical College at Cleveland, Ohio, was also given a high-grade in this report. But between these two Universities, with their medical departments, comes the low-grade collegiate school which nullifies the entrance requirements of both. It is done in this way. At Plattsville, Wisconsin, is a normal school whose work is not accepted by any of the three best schools in Chicago. Yet the University of Wisconsin gives full credit for the work of this low-grade normal school, and the medical department of the Western Reserve University accepts the certificate of the University of Wisconsin. So that a student from Plattsville can get his work O. K.'d by this State University, and then go on to Western Reserve and be accepted on credentials that are rejected in Chicago. In other words, there are no entrance requirements in this country, no matter how high, that cannot be beaten by any student, if he will take a little time to look the matter up. The standards between the High Schools, Normal Schools, Colleges and Universities are nowhere adjusted. Students of the lowest grade medical schools of Chicago can get into the classes of most of the high-grade schools in this country, and thus beat the entrance requirements, no matter how rigid they are. A medical educator of one of the Western states said to one of us that they could not refuse to accept the students from these schools, because their entrance requirements had been passed upon favorably by the Illinois State Board of Health.

Your committee have neither the time, the money, nor the inclination to write another Flexner report. What we want to do is to call the attention of the profession of this state to conditions which, if they will but interest themselves, can be improved. As a profession, we are being demoralized and ruined by the cheap medical schools. Practically all of the unrest and dissatisfaction that are rife in the profession to-day can be traced back to this course. There are any number of men who would leave medicine in a minute, if they had sufficient training to get a living out of some other occupation. But the most of these have been in medicine so long that they dare not change. The only representative that the profession has in this country is the American Medical Association. In every low-grade school, we repeat, that your committee visited, cordial hatred of their committee on Medical Education was freely expressed. The talk of "trust methods" was freely given. One of the disturbing factors in the Chicago Medical Educational field is the present disorganization of the profession there.¹ The low-grade schools hold the balance of power and when aided,

* The delegates of the Chicago Medical Society, in the debate which followed the reading of the report, agree to accept it on condition that all reference to the Chicago Medical Society and its troubles be eliminated. This offer was made by Dr. A. M. Harvey of the Chicago delegation to Dr. Carl Black and Dr. J. F. Percy, and was agreed to by Dr. W. L. Noble and Dr. A. M. Corwin of the Chicago delegation. This was accepted by Dr. Percy and was so stated on the floor of the House; and the resolution which embodied this was voted for by the members of the medical education committee present and their friends. But the delegates of the Chicago Medical Society forced an adjournment in order to forestall the acceptance of the report; and the president aided them in preventing its adoption—as they agreed—by failing at the next session of the House to call up the report for adoption. Under these conditions the committee on medical education feel that the Chicago delegation purposely failed to carry out their part of the agreement, and the committee therefore assumes full responsibility by insisting that the report stand as it was originally read.

(Signed) EDWIN W. RYERSON. J. F. PERCY. E. MAMMEN.

as they are, by the interests that have flourished for years off our profession, it is up to the profession in the State outside of Chicago to do something to correct these abuses. If the profession in this State, outside of Chicago, does not form a constructive alliance among its own members to fight the evils of medical education in that city, the outlook for the whole profession in the state is indeed gloomy.

Another depressing factor, as far as the Chicago profession is concerned, is this: the so-called leaders are taking absolutely no interest either in Chicago as a medical teaching center, as a hospital center (with all its abuses of the profession by free work), or as a center in which exist more fake schools for the teaching of irregular medicine than any other place on earth. The graduates of these latter schools mostly locate in the country. It is the down-state fellow who gets the brunt of this kind of competition. These graduates make friends, designedly, with judges and legislators, and with cunningly devised fables they instil into the minds of these law-makers distrust of the general practitioner. We are reminded here of the argument of the proprietor of one of the Chicago Osteopathic Schools, who, after pointing out to the legislative committee from whom he was trying to get the legal right to grant the degree of Doctor of Medicine, said: "Look at the schools that are granting this degree in Chicago; my school is infinitely better prepared to teach medicine than these," and he was right. This reminds one of us of another interesting episode before the legislature. It, also, was in connection with a bill which would give the irregulars the right to practice medicine. The spokesman made the plea that what the osteopaths were after was exactly what the regulars required twenty-five years ago. He made the truthful statement that the members of the committee of the State Medical Society who were opposing the bill graduated under no greater requirements than they (the osteopaths) were contending for. This, too, in the main, was true. Closing his speech, he raised both hands toward heaven, and in the most dramatic manner imaginable, said: "Gentlemen, I beg of you to put no stone in the way of our progress." It was interesting to see how many members of the legislative committee who heard this eloquent plea were impressed by it, and really looked askance at the committee from this Society as if they were hindering medical progress. It took one of our good talkers some time to convince this same legislative committee that none of us wanted to go back to the conditions in medical education of twenty-five years ago.

We can refer only briefly to the schools which we have placed as a subdivision of class three. You will remember that we said there were thirteen of these schools. Bennett Medical College has gotten control of the Reliance and the Illinois Medical Colleges. The proprietor of the Bennett Medical School said to your committee with commendable pride, that he had done what the Illinois State Board of Health had never been able to do, "put two schools out of existence." We might say that these schools are still running, but their sponsor assured us that they would cease to exist in the near future. In passing, we should, in justice to Bennett Medical College, say that it has made considerable progress in the way of material equipment since it was visited by your committee three years ago. It has one of the best dissecting rooms that we saw on our rounds of the Chicago Schools. But in all-around equipment it lacks much still. It is the proprietor of this school, however, who has made the statement that your committee would be sued, if its report contained anything derogatory to the perfectness of this school, either as to equipment or entrance requirements; and so your committee, although not scared, do not deem it necessary to report further along this line.

As we have already shown in this report so far, it is not our purpose to report on individual schools. This has been done better than we can do in the reports of Bevan and Flexner. All that we can say in a general way is that the schools in classification one and two are better equipped than they were three years ago, when we inspected them. But much remains to be accomplished. Chicago should have but one medical school. It is all that the profession needs,

and it is certainly all that the people require. We can do no better here than to quote from the report of the late Ephraim Ingals, who was chairman of this committee in 1882, twenty-nine years ago. He said in that report: "The world is familiar with Dartmouth, Cambridge, New Haven and Ann Arbor in America, with Oxford, Cambridge, Heidelberg, Göttingen, and many other cities of the old world, chiefly because they have been the seats of learning of superior excellence. If the Illinois (Industrial) University had a medical department, through this it might fix the standard of medical education for the State." He advocated an appropriation of one hundred thousand dollars for this purpose, and then added: "Such a medical school would acquire public confidence and sympathy by establishing and maintaining a high grade of excellence, it would doubtless become the recipient of generous private endowments, as the medical department of Harvard and the University of Pennsylvania have from a like cause." He then adds, "We annually graduate a larger number of medical students than we ought. The adoption of the recommendation we have offered would tend to decrease the number and improve the quality of those receiving the degree." All of Dr. Ingals' report is illuminating; and it is pertinent to inquire what kind of a report he would write were he back here to-day, as chairman of this committee, to find that, so far as the rank and file of the profession are concerned, we are more overburdened with unnecessary medical schools, regular and irregular, and non-descript, than was true in 1882.

From the work of your committee, we are convinced that the schools which we have put under the subdivision in section three are a real menace to the scientific progress of the rank and file of the profession. We are being taught, and many of us believe, that sectarianism in medicine is dead. Nothing is further from the truth. It is true, however, as far as Homeopathy, Eclecticism and Physiomedicalism are concerned. These sects have benefited, as have we all, from the prodigious work of the Scientist in medicine with his wonderful laboratory. But as these three sects are gradually being merged into the great scientific melting pot, others less qualified than those whose places they are taking are making a successful bid for their places. There are more medical sects in Chicago to-day illegally using the prefix "doctor" than ever before in the history of medicine in this country; and nothing is being done by the constituted powers of the state to curb him. Every one of these sects is teaching its students to hammer, in season and out of season, the legally qualified practitioners of medicine. One of the worst of these is the McCormick Medical College, which advertises that they have condensed a four-year's medical course "into nine months," and they state further: "We do this by an entirely new method and procedure of teaching." They referred the woman, whom your committee employed to write to these various schools as to what was necessary for her to do in order to practice medicine, to two people in her town, both of whom they called "doctor." Upon investigation, one of these proved to be a housewife, and the other a travelling man who spends his spare time selling spectacles, and while so doing, roasts the ophthalmologists who are graduates in medicine, because of their "ignorance." Investigation shows that these "graduates" have, framed, in their houses, elaborate diplomas from the McCormick Medical College, on the basis of which they are called "Doctor;" and are given all the rights and privileges of the physician, by the public, who do not know that they are not legally qualified practitioners. The "Northern Illinois College of Ophthalmology" offered this same woman a degree as "Doctor of Optics" and "a life scholarship" for twenty-five dollars, with the assurance that she could finish the course "in from eight to ten weeks." The Oakley Smith College of Naprapathy sent this woman a very fine letter and a finer catalogue. They offered her a two-years' course in fifteen months, for a fee of three hundred and fifteen dollars.

I am sorry that we have not space for the whole letter, but we cannot refrain from quoting its closing sentence: "The success of our practitioners is so much greater than practitioners of medicine have, that Naprapathy becomes a most alluring field." The following from their fifth semi-annual announcement (1910-

1911) p. 8 and 9, will prove interesting: "Chicago is the only city in the world possessing a College of Naprapathy," and again, "Chicago is the most receptive city in the world to advanced ideas." In this same catalogue is an item headed: "The Illinois License," and under it is the following, which must prove interesting reading to the members of this Society: "Illinois is the one place in the United States where a drugless practitioner of our type can take examination before a State Medical Board and receive a license. No one should enter any state without an Illinois license. Twenty of our graduates have received licenses (some from other states, however), and all who have tried have succeeded." Another interesting thing to which all of these schools refer is the use they advertise that they make of Cook County Hospital. This great institution must be the meeting-place of more irregularity than even the public know, familiar as they are with its devious politics. On page 24, this catalogue has much more to say about the advantages of the Illinois law which allows its graduates to take the State Board examination and secure a license; but we refrain. Then there are the Chiropractic Schools, two in number, which make the organized profession of medicine to appear dead dogs. In addition, there is the American College of Mechano-Therapy, which gives a diploma entitling its possessor, contrary to law, to be called "doctor" and to nullify and malign medical practitioners; and this diploma is made on "white art parchment paper." But, again, we must refrain.

Since writing the foregoing, there has come into your committee's possession the resolutions formulated and adopted by the Williamson County Medical Society at their meeting held March 2, 1911. Their resolutions, which we can mark Exhibit "A," cover the field so admirably in the way of recognizing undesirable medical college conditions in Illinois, that your committee has decided to incorporate them in this report, in order that the future investigator of Medical Educational standards of this day may get a true perspective of what the practitioners of medicine in this year of 1911 had to contend with. The resolutions read as follows:

"MARION, ILL., March 2, 1911.

WHEREAS, in the larger cities of the United States there exist a vast number of unnecessary medical colleges, which are run for commercial purposes only; and

WHEREAS, as an inevitable consequence of the intense competition among medical schools arising from that state of affairs, great numbers of incompetent and even illiterate physicians are graduated yearly; and

WHEREAS, owing to the aforesaid competition among the schools, some even of our best equipped medical colleges are graduating improperly qualified physicians; and

WHEREAS, the state board of examiners have not, as a rule proved themselves capable of neutralizing, or willing to neutralize, the excessive leniency of the medical colleges; and

WHEREAS, many city physicians, by reason of their professorships in the aforesaid unnecessary medical schools, reap various advantages in the way of honors and fees, which advantages presumably more than compensate said physicians for the increased competition in practice resulting from the large number of unnecessary schools and from the great freedom with which diplomas and degrees are conferred—compensations which nowhere find their counterpart in country practice; and

WHEREAS, the aforesaid unnecessary medical colleges and the aforesaid lack of stringency in college and state board examinations, with the resulting intense competition in country practice without the compensatory increase in honors and fees enjoyed by the aforesaid city physicians as a consequence of the aforesaid deplorable state of affairs, is simply spelling ruin to the country practitioners—a ruin which in no way benefits the public, now, therefore, be it

Resolved, By the Williamson Co., Ill., Medical Society that the management of the American Medical Association be thanked for the services already rendered in the way of elevating American Medical Standards, and be it further

Resolved, That the said management of the Association be requested to employ hereafter their utmost endeavors to raise the standards of medical (including

preliminary) education and of medical practice in the United States of America until these shall have become fully equal (if not superior) to those prevailing in the various countries of Europe.

Signed,

D. S. BOLES, President.

J. G. PARMLEY, Secretary,

Williamson Co., Ill., Medical Society.

Committee on Resolutions:

Dr. T. H. SHASTID,

Dr. A. J. AIRD,

Dr. C. BROWN."

The resolutions which we have marked Exhibit "B" also cover the ground of the powers and privileges of the irregular practitioners; because of this, and for their historical accuracy, they, also, should be included in this report. They read as follows:

"MARION, ILL., March 2, 1911.

WHEREAS, various individuals, or collections of individuals, are continually urging, at almost every meeting of the Illinois legislature, the passage of laws, the object of which is to secure for various persons the right to treat the ailments of the human body, without such practitioners having first submitted themselves to the long and arduous training which such a right would logically presuppose; and

WHEREAS, it has been found by experience that those who seek the passage of such enactments almost invariably do this under color of having discovered some new "School" of medical practice; and

WHEREAS, the promoters of such alleged new 'schools' of medical practice almost invariably base their right to practice spite of an abbreviated course of study, upon the assertion that they do not propose to exercise the healing art in all its extent, but only in certain branches or by certain restricted methods; and

WHEREAS, experience has shown that those who are thus licensed to practice some particular school, do not, when once before the people, remember their limited pretensions, but proceed straightway to the treatment of all the various bodily ills and by many other methods than those to which, when applying to the legislature, they proposed to restrict themselves; and

WHEREAS, the machinery of the courts has proved itself inadequate to rectify this state of affairs, inasmuch as it cannot deal with the subtle distinctions which exist or can be made to exist between the various so-called 'schools' (which distinctions indeed could be multiplied indefinitely, even to the creation of an infinite number of so-called 'schools'); and

WHEREAS, there would seem to be no more real reason why 'schools' of medicine should be established than why 'schools' of law should be established (the greatest room for differences of opinion being properly allowable in either profession, without for that reason letting down the bars of study and adequate preparation); now, therefore, be it

Resolved, By the Williamson Co., Ill., Medical Society that it hereby place itself upon record as being unalterably opposed both to the creation of new 'schools' of medicine and to the extension of the powers of practice of the already existing 'schools;' and, be it further

Resolved, That his excellency, Gov. Deneen, and the Hon. W. O. Potter, and the Hons. Hall Whiteaker, R. D. Kirkpatrick, and R. P. Hill be hereby requested to exert themselves to their utmost to prevent the enactment of any further legislation looking toward the creation of new 'schools' of medicine or to the extension of the rights to practice of already existing 'schools;' and, be it further

Resolved, That copies of these resolutions be forwarded to the said Gov. Charles S. Deneen, the said Hon. W. O. Potter, and the said Hons. Hall Whiteaker, R. D. Kirkpatrick, and R. P. Hill.

Signed,

D. S. BOLES, President,

J. G. PARMLEY, Secretary,

Williamson Co., Ill., Medical Society.

Committee on Resolutions:

Dr. T. H. SHASTID,

Dr. A. J. AIRD,

Dr. C. BROWN."

On the desk in one of the offices of one of the low-grade schools that your committee visited was a little iron elephant used as a paper weight. Some one had printed with a pen on a placard hung on the elephant, these words: "We have an elephant on our hands; will you help us take it off?" This motto, your committee believes accurately describes present day medical conditions as they affect the medical men of Illinois in and out of its great medical center—Chicago. The Williamson County resolutions just read show that our members are recognizing these conditions. One of the pitiable exhibitions already shown at this Aurora meeting of the Illinois State Medical Society is the representatives of the Chicago Medical Society in this House of Delegates, coming as they do from a city where these abuses exist, and have existed for years, and yet with nothing to offer the medical men of Illinois but a fight on the American Medical Association, the only institution in this country that has ever dared to try to correct these abuses. The only thing that they have to offer from the great city of Chicago and its disorganized county society is a hair-splitting argument that the American Medical Association is not legally organized. We have all heard that Nero fiddled while Rome was burning. Instead of extracting the beams from their own eyes, instead of raking the moon with a fine tooth comb, they could add much to their prestige of what was once a great county society, and join with the members of this State Society out in the state, and try to do some constructive work along medical lines that will make Chicago the Berlin or Vienna of the New World, as it should be, and can be.

Your committee have gone over the whole field of Medical Education in this country looking for a remedy, or remedies, that might help the medical educational outlook in this good though badly abused state of ours. But under present conditions, it is the belief of your committee that no constructive work can be done, because the profession of the state have no sympathetic or progressive advocates in the State government at Springfield. We heard from various sources, while pursuing our investigations in Chicago, that all we were doing was gathering material with which to roast the present executive officer of the Illinois State Board of Health. But the real purpose of this report is to tell the profession of this state conditions as they actually are, and as they are actually affecting, and are going to more acutely affect, every physician in this state as the days run into the weeks and the months of the years to come. If, after this is done, and this House of Delegates, representing as it does the various county societies, go home, as they did last year, and leave the Society in the hands of the medical school interests of Chicago, who are interested in only their own little schemes to the total exclusion of the great body of the profession "down state"—it is your own affair, and not the affair of this committee.

The abuses that we have enumerated have flourished under the administration of the present executive officers of the Illinois State Board of Health. But again we have no word of censure for the failure of this Board to do what could be done. The profession of the state has got to take a larger interest in regulating not only the Illinois State Board of Health, but through it the wobble wobble medical schools of our largest and best city. The Chicago profession will not do it. The State Board of Health has no apparent interest in the matter. Is it not time for the profession outside of Chicago to do something toward correcting these evils? Your committee is ready with plans that are practicable, but it can do nothing toward constructive work until a movement is started from among those who feel the pinch of the wrongs that are rife in this state in present day methods of medical education. Under present conditions, there is absolutely no incentive for a physician to be straight in the practice of medicine. The inferior and the unfit get a maximum of protection, while the fellow who follows the code must look out for himself, no matter whether he looks for protection from the Governor of the State, or down through to the justice of the peace.

In Article II of the constitution of this Society, under the caption "The Purposes of the Society," we find in part the following: "To federate and bring into

one compact organization the entire medical profession of the State of Illinois and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition so that the profession shall become more capable and honorable within itself and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life." The purposes of this report have for their mainspring the hopes and the aspirations of that Article II of our constitution. We could have written more; indeed, there is much that we have suppressed. Of one thing we are convinced, and it is that the present chaos in medical education and medical licensure in Illinois will never be cleaned up until it is done by the members of the Illinois State Medical Society. We have reached the place in the road where the past and the future meet. The public are demanding better things of us. In their blind groping they have turned to the irregulars only to find that these, too, are playing them false just as medicine, in a large measure, has done and is doing. Still blindly groping, they are turning to the cults that your committee has made a subdivision of class three. These, too, as we well know, will fail them. Where will they turn next? The only answer that we can give is: God only knows.

We have witnessed the formation of a great organization within the last two years called the "League of Medical Freedom." It has power, influence and money. When this House of Delegates goes home, let its members ask their representative in Congress at Washington if that so-called Medical League had any influence in Congress. You will be surprised at the answer you will get. That league is gathering up all the discontent that truly exists in this country against the medical profession, and is welding it into a destructive force, the climax of which no man without the wisdom of a seer can foretell. Outside of this League are the articles in newspapers and magazines calling in question the science, the art, and the every day practice of medicine. Books are being printed, and one of the worst of these is that by Norman Barnesby entitled "Medical Chaos and Crime," another is "The Doctor's Dilemma," by Bernard Shaw. These, together with adverse rulings by the courts, greater in number than ever before in the history of our country, are merely the straws that show that the currents of popular trust, which have always been with us, are veering in a reverse direction. Every other profession deals merely with property or morals; and these are as nothing in the mind of the average human being, when he turns his thoughts toward his own health and to those whom he will permit to juggle with it. As a profession, we have not been square with the public, and we will not be as long as we blunder along as we are now doing under the conditions which at present obtain in this state; conditions, believe us, that are now the worst that exist anywhere in the civilized world.

Gentlemen, this is our report. It is up to you to do something to correct these evils. If you do not, an attempt will surely be made to correct them without your help; and the result, under such conditions, will not be difficult to divine.

Respectfully submitted,

EDWIN W. RYERSON,
J. F. PERCY,
E. MAMMEN.

At the conclusion of the reading of the report, Dr. Crawford, of Winnebago County, moved that the report be tabled. Seconded.

Dr. J. W. Pettit, of Ottawa, moved as an amendment that the report be adopted. Seconded.

Dr. A. M. Corwin, of Cook County, discussed the report, after which the President stated that a motion to table was not subject to amendment.

The Chair then put the motion to table, but being unable to decide, asked for a rising vote, with the result that there were thirty-three in favor of tabling the report and forty-four opposed to it.

The Chair declared the motion to table the report lost.

Dr. J. W. Van Derslice, of Cook County, moved that the House adjourn now, and that this matter be made a special order immediately after the election of officers Wednesday morning. Seconded.

Dr. Pettit rose to a point of order, and stated that according to the work laid out by the Program Committee, the House of Delegates could transact no business on Wednesday.

The President said the point of order was not well taken. The House of Delegates could transact business whenever it pleases unless it interferes with the scientific program.

Dr. Van Derslice withdrew his motion, and then moved that when the House adjourns it adjourn to meet Wednesday afternoon at 4 p. m. Seconded.

The President put this motion, but being unable to decide, asked for a rising vote, with the result that thirty-seven favored the motion, while fifty opposed it.

The motion was declared lost.

Dr. Pettit then renewed his motion that the report of the Committee on Medical Education be adopted, which was seconded by several delegates.

Dr. Noble moved, as a substitute for Dr. Pettit's motion, that the report be printed for the benefit of the delegates, and that the consideration of the same be postponed until a later date.

This motion was seconded by several delegates.

After discussion by Drs. Noble and John A. Robison, Cook County, the President put the substitute motion, but being unable to decide, asked for a rising vote, with the result that thirty-seven delegates favored the substitute, while forty were opposed to it.

The substitute was declared lost.

Dr. Crawford rose to a point of order and stated that, according to Article IX, Section 7, of the By-Laws, "The functions of this committee shall be (1) to cooperate with the state examining board in matters pertaining to medical education."

He stated that this committee had never cooperated with the state board, and had not asked the assistance of the board in this examination. His point of order was that the report of this committee was an individual report, because its members had not performed the functions prescribed in the by-laws.

On this point of order, the President asked Dr. Percy to answer whether the committee had cooperated with the state board or not.

Dr. Percy said the committee had tried repeatedly to have meetings with the State Board of Health with reference to these matters, but had never been able to get down to any satisfactory basis with the board

on any line; that the efforts of the committee had met with failure always.

The President then said: The point of order has been raised that the committee did not cooperate with the state board as the by-laws require. The Chair understands that the committee made efforts to cooperate with the state board, and has been unable to do so.

Dr. A. M. Harvey moved that all reference pertaining to the Chicago Medical Society, or, as it is termed, the Cook County Medical Society, be stricken from this report.

This motion was seconded by several delegates.

Dr. Crawford moved as an amendment that all reference to the Illinois State Board of Health be stricken out.

Seconded, followed by cries of No! No!

Dr. Percy accepted the motion of Dr. Harvey.

After discussion, which was participated in by Drs. E. Mammen, James E. Stubbs, W. L. Noble, the President put the motion of Dr. Harvey, and declared it carried.

The President then stated that the original motion of Dr. Pettit was before the House for action.

Dr. Noble moved to amend by striking out from this report all reference to the State Board of Health, which would imply that the State Board of Health was responsible for the admission requirements of applicants to medical colleges, because the statutes of the State of Illinois determined or specified what these qualifications are.

Dr. Pettit insisted on his motion, saying it was too late to make a motion after one amendment had been voted on. He urged that a vote be taken on his original motion.

The President ruled that the gentleman's point was not well taken.

After discussion by Dr. Carl E. Black and Dr. Noble, the Chair put the amendment of Dr. Noble, but being unable to render a decision, asked for a rising vote, with the result that there were thirty-two in favor of the amendment and forty-one opposed to it.

The amendment was declared lost.

The President stated that the question was on the original motion of Dr. Pettit.

Dr. Noble demanded a roll-call on this motion.

In answer to a question, the Secretary read a list of the names of chairmen of standing committees, etc., who were entitled to seats in the House of Delegates.

Dr. Taylor said he did not understand clearly what the committee said in its report with reference to the State Board of Health.

President Cotton thereupon requested Dr. Percy to reread that paragraph to enlighten Dr. Taylor, which he did.

The Secretary at this juncture was about to call the roll, as demanded, when a motion was made to adjourn, which was duly seconded and carried.

Accordingly, the House then adjourned to meet Thursday morning at 9 o'clock.

MAY 17, 1911—SECOND SESSION

The House met at 4 p. m., in accordance with a request, signed by more than a quorum of its members, and was called to order by the President.

Dr. Harvey made an additional report as chairman of the Committee on Credentials.

The Secretary called the roll, and eighty-one delegates responded.

Dr. K. A. Zurawski, of Cook County, offered the following amendment:

Article V, House of Delegates.

The House of Delegates shall consist of delegates elected by the component societies and president of this society ex officio. The other officers, chairmen of standing committees and chairmen of scientific sections may take part in the proceedings of the House of Delegates but without the right to vote. It shall be the legislative body of this society and shall conduct all business, except such as is otherwise provided for by the Constitution and By-Laws. All the recommendations of the House of Delegates dealing with the acquisition or disposal of property of any kind, or with the appropriation or expenditure of funds in any way must be approved by the Council before the same shall become effective. Twenty delegates shall constitute a quorum for the transaction of business.

Dr. Carl E. Black, of Jacksonville, offered the following amendments:

Article III, line two, to read: "county or local medical societies which hold charters."

Article V, Section 1, lines fourteen and fifteen, to read: "come effective. Twenty delegates representing not less than ten counties shall constitute a quorum for the transaction of business."

Chapter 10, Section 4, line two, introduce after the word "county" the following: "Provided that in counties having 300 or more members, branch county societies may be organized and receive regular charters as component societies upon application to the council in the usual manner, and provided that each branch county society thus organized shall contain not less than seventy-five members, who shall live within a definite circumscribed district, and who shall constitute not less than 50 per cent. of the legally qualified physicians living in that district."

Dr. Robison moved that the amendments offered be printed and distributed for consideration to-morrow. Seconded and carried.

Dr. Coleman, of Canton, presented the following amendment to the By-Laws, Chapter IV, Section 3: Add to this section the following: "and the section officers for such scientific work shall be elected for two years, and the President and Secretary of such sections shall go out on alternate years, and that the Committee on Scientific Work shall meet as soon as convenient after the adjournment of the State Society."

On motion, the House of Delegates then adjourned until 9 a. m., Thursday.

MAY 18, 1911—THIRD SESSION

The House of Delegates met at 9 a. m., and was called to order by President Cotton, who stated that before the formal opening, in order to save time, it had been suggested that some matters might be presented to the House at this time; that President-elect Newcomb, of Champaign, desired to present a resolution, which would be heard at this time if there was no objection.

Dr. Newcomb then presented the following motion:

Moved, that the House of Delegates of the Illinois State Medical Society heartily approves the petition of President James for the equipment of the Medical Department of the University of Illinois and requests the legislature to make the necessary appropriation.

After presenting the motion, Dr. Newcomb said that during the winter members of the profession had doubtless received letters from President James of the University of Illinois, asking their opinion with regard to the extension of the medical department of the University of Illinois, which was presented in the form of a petition, to which there were something like three thousand signatures attached, and he found that most of the names on the list were members of the state society. This petition the members had seen, and it was hardly necessary to read it. President James had himself presented the matter in such a clear form that he only wished to read an extract from his letter. (Extract was read.)

The motion was seconded by several.

Dr. James E. Stubbs, Chicago, thought every physician in the state had received one of these circulars with a request from President James to reply to it. There were two great universities in Chicago at the present time which antedated the University of Illinois in years, and he could see no reason why we should petition the state legislature for an appropriation for the University of Illinois, and not do the same for the two other universities which had just as much claim on the public and the state legislature as did the University of Illinois.

Dr. W. O. Ensign, of Rutland, said we were all citizens of Illinois and were proud of that fact. We took great pride in the institutions of the state. Minnesota, Wisconsin, Michigan, and other states had their state universities, and why should Illinois be behind them. He favored the petition for an appropriation for the establishment and equipment of a medical department of the University of Illinois.

Dr. K. A. Zurawski, of Chicago, could see no good reason why any one should object to the state university being granted assistance in keeping up the medical department. He spoke strongly in support of the motion.

Dr. J. W. Pettit, of Ottawa, said the vote on this question involved one angle of a principle that was dividing the medical profession to-day, namely, the struggle was for higher medical education, the center around

which much disturbance revolved. If the House opposed the resolution it would put itself on record as stultifying itself against higher medical education.

President Cotton stated that the Chicago Medical Society had put itself on record as unanimously endorsing this movement or bill; that the medical departments of the Chicago University and of Northwestern University were favorable to it.

At this juncture there were cries of Question! Question!

The President put the motion to adopt the resolution of Dr. Newcomb, and declared it carried unanimously.

Secretary Weis called the roll, and 103 delegates responded.

A question was asked as to whether a delegate, when called away for any reason, could have the alternate serve in his place.

President Cotton ruled that if a delegate was called away for any reason whatsoever, the alternate, if properly accredited from his society, could serve, if present, in place of the delegate.

The Secretary read the minutes of the previous sessions.

Dr. M. L. Harris, of Chicago, moved that the minutes as read and corrected be approved. Motion seconded and carried.

The election of officers for the ensuing year was proceeded with.

The President appointed as tellers Drs. Clark, McClellan and Hollowbush.

The following officers were nominated and duly elected:

President-elect—Dr. L. A. H. Nickerson, Quincy.

First Vice-President—Dr. J. W. McDonald, Aurora.

Second Vice-President—Dr. J. E. Miller, Pittsfield.

Treasurer—Dr. E. J. Brown, Decatur, reelected.

Secretary—Dr. E. W. Weis, Ottawa, reelected.

Councilors—District No. 1, Dr. J. H. Stealy, Freeport; District No. 2, Dr. J. W. Pettit, Ottawa; District No. 8, Dr. E. B. Cooley, Danville.

Delegates to the American Medical Association—Dr. E. J. Brown, Decatur; Dr. Hugh T. Patrick, Chicago, and Dr. Alexander Hugh Ferguson, Chicago. Alternates—Dr. Clifford U. Collins, Peoria; Dr. S. C. Stremmel, Macomb, and Dr. George S. Rainey, Salem.

Members of the Committee on Public Policy—Dr. A. M. Harvey, Chicago, Chairman; Dr. W. L. Baum, Chicago, and Dr. Frank P. Norbury, Hospital.

Committee on Medical Legislation—Chairman, Dr. L. C. Taylor, Springfield; Dr. M. S. Marcy, Peoria, and Dr. Charles J. Whalen, Chicago.

Committeeman on Medical Education—Dr. E. P. Sloan, Bloomington.

Medicolegal Committee—Dr. W. O. Ensign, of Rutland, moved that the members of this committee be selected by the various local societies and report to the secretary of the Illinois State Medical Society the representatives selected by them for the Medicolegal Committee, and

that the men suggested by these local societies shall be declared the members of this committee. Motion seconded and carried.

Committee on Secretary's Conference—President, Dr. J. N. Rafferty, Robinson; vice-president, Dr. Marion K. Bowles, Joliet; secretary, Dr. E. W. Fiegenbaum, Edwardsville.

Section Officers—Section 1, Sumner M. Miller, Peoria, chairman; Charles Elliott, Chicago, secretary. Section 2, E. B. Owens, Dixon, chairman; N. M. Percy, Chicago, secretary.

Springfield was selected as the place for holding the next annual meeting.

Dr. C. E. Crawford, of Winnebago County, extended an invitation to the society to hold its meeting in 1913 at Rockford.

Dr. L. C. Taylor, of Springfield, chairman of the Committee on Medical Legislation, read the report of this committee, as follows:

REPORT OF COMMITTEE ON MEDICAL LEGISLATION

During the present session of the legislature, a number of bills have been considered which are of interest to the medical profession of the state. Some of these measures are yet to be voted upon and it will be impossible at this time to predict the probable outcome. Among the latter are the appropriation for a state sanitarium for tuberculosis, the vital statistics bill and a bill appropriating a hundred thousand dollars annually for the medical department of the University of Illinois.

Senate Bill No. 140, entitled, "For an Act to Regulate the Practice of Optometry in the State of Illinois," was defeated in the senate on May 3, receiving but fourteen affirmative votes, barely more than half enough to secure its passage. This bill was similar in character to measures introduced in former legislatures.

House Bill No. 380 introduced by Representative Perkins was considered by the Judiciary committee on March 21. This bill was entitled, "An Act to Regulate the Practice of Medicine in the State of Illinois and to Repeal an Act Therein Named." Its object was to place the so-called osteopaths under the control of the State Board of Health to the extent of requiring recognition of their schools and after satisfactory examination, to confer upon them the statutory right to style themselves doctors of osteopathy. It was promptly disposed of by the Judiciary Committee with the recommendation that it "do not pass." As it is now tabled along with other measures, it will not reach the floor of the house during this session.

A bill was also introduced making an appropriation of one hundred thousand dollars annually for the use of the medical department of the University of Illinois. This measure while tabled as a separate measure, was incorporated in the general appropriations bill for the University and will be acted upon before the close of the session. House Bill No. 631 introduced by Representative Shanahan, entitled "A Bill for an Act Making Appropriation for New Buildings and New Institutions to Care for the Insane and Epileptics," will probably be passed, thus securing additional facilities for caring for the insane in our already over-crowded institutions.

House Bill No. 493 above referred to and known as the Vital Statistics Bill, was put on third reading in House Tuesday, May 16. Further reports from this bill show that it failed to pass the house on Tuesday, May 16.

Respectfully submitted.

L. C. TAYLOR,
M. S. MARCY,
C. J. WHALEN.
Committee.

(Since the above report was submitted the University appropriations bill was passed with a clause providing for sixty thousand dollars annually for two years for the medical department of the University of Illinois.)

Dr. W. L. Noble, of Chicago, moved that the House of Delegates of the Illinois State Medical Society extend a vote of thanks to the Committee on Medical Legislation of that body, Dr. L. C. Taylor, chairman; the Public Relations Committee of the Chicago Medical Society, Dr. Charles J. Whalen, chairman, and the Illinois State Board of Health, Dr. J. A. Egan, secretary, for the vigorous and effective efforts which they have made in defeating the osteopathic and optometry bills introduced into the forty-seventh general assembly. Motion seconded and carried.

REPORT OF THE MEDICOLEGAL COMMITTEE

Dr. Harold N. Moyer, of Chicago, chairman of the Medicolegal Committee, presented the following financial statement of the work of this committee:

RECEIPTS

MAY 19, 1910, TO MAY 19, 1911

Balance, May 19, 1910	\$ 449.61
Dec. 9, 1910, from Dr. E. J. Brown, Treasurer	2,000.00
June 30, 1910, by check of Geo. H. Janson for appearance fee <i>in re</i> Schuchknecht vs. Hansen	3.00
February 13, Dr. Everett J. Brown, treasurer	1,000.00
Total	<u>\$3,452.61</u>

DISBURSEMENTS

MAY 19, 1910, TO MAY 19, 1911

General counsel	\$1,854.00
Attorneys' fees	1,426.65
Stenographer	280.00
Exchange	2.25
Postage	4.00
Stationery .....	.70
Books, "Taylor Law"	8.00
Expert witness expenses	73.80
Court reporting and transcript of evidence	259.25
Expense Chairman's office	18.75
Total	<u>\$3,927.40</u>
Overdrawn	\$474.79

After presenting the financial statement, Dr. Moyer said: I want to say a word or two about what the chairman ought to do, not what I am going to do, because Dr. Eisendrath will be the Chairman of this committee if you continue the same system. I was not satisfied with imposing a dollar assessment on everybody. When this thing was proposed I did not like it, but Dr. Evans, one of my associates, disagreed with me, and I yielded. I did not care how it was done, provided it was done, and the result showed it is all right. A considerable proportion of the membership are insured, probably 40 or 50 per cent. are actually insured. That brings us squarely before the proposition regarding the medicolegal fund. I advise members to take insurance, and as chairman of the committee I am frequently asked about insurance. When a man gets insurance the committee does not have to pay the bill, if anything happens. The more insurance we have, the more it will conserve our fund, and that is what I want

you to do, so that a substantial balance will be left in the treasury. An insurance that does not carry with it indemnity is not worth anything. You cannot draw a contract and put in an insurance policy unless it carries with it some sort of indemnity. When the committee started there was no policy written that carried indemnity, and it was agreed to make a defense, pay the attorney's fees, and court costs. When the committee began with its work it had to do better, otherwise it could not get any business. Policies for fifteen dollars carrying \$5,000 indemnity were written. That is what has been accomplished by this committee, and you get more for your money in consequence of this committee's work. That is the only kind of policy you should have; the others do not amount to anything. Unless you have an indemnity clause the policy will not amount to much. My advice is to stop taking from the treasury a specific amount for each one. It is a mere matter of bookkeeping. If any one wants a defense fund, let him buy it. That is fair, and he who does not want it, let him go without it. The insurance you get from insurance companies costs too much. They are carrying the indemnity costs. The insurance companies pay \$2.50 a year to carry it, and you pay \$12.50 for the sake of carrying it, and that amount might just as well go into the general fund of this committee. If this committee had started out and insured people in that way, considering the money that has been paid out since this movement has been in operation by the members of the society through insurance companies, if it had been put into the hands of a committee, you would have a little over one hundred thousand dollars in the treasury, and the interest on that sum of money would pay all administration expenses. But whether you want to do this or not is a question. I would advise you to do so, because it is a simple, practical, and feasible proposition. Start in by asking men who carry insurance to let the Medico-Legal Committee place it for them. The person who writes a policy for insurance gets five dollars, and he is generally the one who knocks the committee. Those who write policies for insurance knock the committee because they went to get your five dollars for writing each policy. You save all of that commission with one fell swoop to begin with if you place it in the hands of the Medicolegal Committee.

Many of you, I take it, do not read the terms of the contract under which you operate. Some men do not know whether they have an indemnity policy or not. How many of you can tell what your contract with an insurance company is and what it is worth and what it means. I presume a few of you can, but not very many.

I offer these suggestions so that you may put the Medicolegal Committee on a sound basis. I have done all of this work for nothing. I have been glad to do it, but the next man ought not to be asked to do it. It is too large a job. Some of these files I have shown you contain anywhere from twenty to thirty letters. The system is now well established, and I think it is good constructive work, and I do wish that more of you would do some constructive work. That is my idea of things. (Applause.)

Dr. M. L. Harris, of Chicago: In view of the great amount of work, and the importance of it, that has been done by this committee, to the society, involving financial matters, I move that the society approve the report that has been made by Dr. Moyer and extend to him and the other members of the committee a vote of thanks for their very excellent work. Motion seconded and carried.

Secretary Weis read the following communication from the American Medical Association:

At the meeting of the House of Delegates of the American Medical Association, held Wednesday, June 8, 1910, the following resolution was presented by Dr. Hubert Work, of Colorado.

WHEREAS, The plan of organization of the profession carried to its logical conclusion means that every member of a county society should be *ipso facto* a member of the American Medical Association, just as every member of a county society is *ipso facto* a member of a state society, and as it is the ultimate end of the plan that the American Medical Association should be coextensive with the organized profession throughout the land, and as nearly, if not quite, every state already has adopted the plan so far as making every member of a county society a member of a state society; therefore, be it

Resolved, That the President appoint a committee to draw up details for extending the plan to the American Medical Association, and to present this plan to the various state societies for their consideration during the coming year, and to make a report at the next annual meeting of this House.

Dr. Crawford of Winnebago County moved that the communication be received and placed on file. Motion seconded.

Dr. M. L. Harris of Chicago stated that the American Medical Association would like something more than this from this body. For a number of years there has been an effort to extend membership in the American Medical Association to complete the general plan of organization, which is, as is known, that a member of a county medical society is a member of the state society. Now, it is desired to complete the plan of organization by making every member of the state society a member of the American Medical Association, in order to complete the plan of organization drawn up ten years ago. He thought the matter was serious enough and of such importance as to require some consideration, and he hoped the state society would put itself on record as to whether it favored some such plan or not; not to favor any definite plan or commit itself to some definite plan, but express itself in a general way as to whether or not it was in favor of carrying out the general idea. This was an attempt to carry out to a logical conclusion the general plan of organization. Any plan which was approved by the House of Delegates of the American Medical Association would have to come back to the House of Delegates of the state medical society for ratification or approval; but if the communication was simply filed, and no further action taken, no progress will have been made. He asked for an expression of opinion as to whether the House of Delegates favored or not some plan of extending membership and of carrying organization to its logical conclusion.

Dr. A. M. Corwin of Chicago said that the Cook County delegation was in favor of extending the plan of organization to make it as complete as possible, so that membership throughout every county society shall be as comprehensive and representative as possible. This plan looked good to him offhand, but he had not given it sufficient thought to pass on it and take snap judgment on it.

Accordingly, Dr. Corwin moved as an amendment that this communication be sent to the secretaries of all local societies, since this was

a matter of individual membership to pass on. It is a democratic proposition, and he urged that the men who are affected by this pass on it and express themselves through the medical journals.

Amendment was seconded by Dr. Zurawski.

Dr. W. O. Ensign of Rutland did not think Dr. Corwin had a correct conception of the idea. He was interested in this matter, as it was in accordance with the original plan brought before the profession several years ago, and if carried out would be the inevitable result of the plan begun at that time, but then the movement had not sufficient backing to be carried out, and the profession had not had sufficient experience with it to know how well it would succeed. The idea of Dr. Harris was for the members to express themselves on this subject, so that the American Medical Association at its meeting in June would be able to have the benefit of what was done.

Dr. Corwin agreed with Dr. Ensign, but thought the matter ought to go to the local societies, and he did not see any reason why it should not go to those societies, whatever action might be taken by this house.

Dr. Crawford then withdrew his original motion.

Dr. Corwin: I now move that we approve of this plan, but that it be referred to the local societies for discussion and final action. Motion seconded and carried.

Dr. W. L. Noble, Chicago: Sometimes in the past it has been difficult to get a clear idea or knowledge of what was transacted in the House of Delegates, and for that reason, I move that the official stenographer be instructed to furnish any delegate present here a report of the proceedings of the House of Delegates, provided he is willing to pay for transcribing the same. Motion seconded.

Dr. Carl E. Black moved to amend, provided such minutes have been approved by this house.

Dr. Noble: I do not approve of this amendment, because it is not merely minutes a delegate may want, but the proceedings, such as speeches on motions, etc., so that any member may familiarize himself with the work that has been done here.

Dr. Black: The justice of the amendment is this: we have had a case in point. We do not know what the minutes are until this body has approved them. This house has the right to decide that. The stenographer cannot decide, nor can the secretary decide. This question of minutes and their approval was brought up in connection with the minutes of last year, and the point was made that only this house could approve them or decide on their accuracy.

Dr. Black withdrew his amendment.

Dr. Ensign said there was one thing he did not like, and that was this: It would place the transactions in the hands of a party or parties outside of the society, and in saying this there was no reflection cast on the official stenographer. He thought that if a transcript of the proceedings was to be furnished to any delegate it should be done through the secretary.

Dr. Zurawski said the secretary could do nothing in this matter; that the record was taken by the official stenographer, and even so experienced a man as the secretary would not be able to read the notes of the stenographer who had taken them for three days; that no one except the stenographer could furnish a transcript of what had been written and done.

There were cries of "Question!" "Question!"

Dr. Noble's motion was then put and declared carried.

Secretary Weis read his annual report, as follows:

SECRETARY'S REPORT

To the House of Delegates Illinois State Medical Society:

Your secretary begs leave to report all moneys received during the year from May 1, 1910, to April 13, 1911, both inclusive, to-wit:

Adams	\$ 47.75	Lake	90.00
Alexander	52.50	La Salle	364.00
Bond	47.50	Lawrence	27.50
Boone	47.50	Lee	75.00
Brown	15.00	Livingston	92.50
Bureau .....	.....	Logan	50.00
Calhoun	17.50	McDonough	80.00
Carroll	75.00	McLean	191.75
Cass	45.00	Macon	142.50
Champaign	267.50	Macoupin	75.00
Christian	80.00	Madison	215.00
Clark	77.50	Marion	117.50
Clay	30.00	Marshall-Putnam	65.00
Clinton	57.50	Mason	47.50
Coles	72.50	Massac	40.00
Cook	5,697.50	Menard	35.00
Crawford	57.50	Mercer	37.50
Cumberland .....	.....	Monroe	27.50
DeKalb	72.50	Montgomery	75.00
DeWitt	25.00	Morgan	260.00
Douglas .....	.....	Moultrie	5.00
Edgar	115.00	Ogle	40.00
Edwards	40.00	Peoria	317.50
Effingham .....	.....	Perry	70.00
Fayette	2.50	Platt .....	.....
Franklin	52.50	Pike	75.00
Fulton	152.50	Pope .....	.....
Gallatin	30.00	Pulaski	7.50
Greene	57.50	Randolph	57.50
Grundy	55.50	Richland	25.00
Hamilton	25.00	Rock Island	75.00
Hancock	45.00	St. Clair	127.50
Hardin .....	.....	Saline .....	.....
Henderson	32.50	Sangamon	155.00
Henry	90.00	Schuyler	2.50
Iroquois-Ford	135.00	Scott	25.00
Jackson	70.00	Shelby	5.00
Jasper	27.50	Stark	27.50
Jefferson .....	.....	Stephenson	103.50
Jersey	37.50	Tazewell	32.50
Jo Daviess	57.50	Union	22.50
Johnson .....	.....	Vermilion	25.00
F. R. V. Med. Ass'n for Kane	202.50	Wabash	44.00
Kankakee	85.00	Warren	70.00
Kendall	30.00	Washington	60.00
Knox	115.00	Wayne	42.50

White	88.00	Woodford	47.50
Whiteside	67.50	Subscription	68.50
Will	15.00	Committee on Arrangements	159.72
Williamson	80.00	Sundries	1.50
Winnebago	137.25		
		Total	\$12,431.47

In the above report it will be seen that there are four counties that stand suspended, i. e. Hardin, Johnson, Pope and Saline. There are also six other counties that have no credits in this report; they are, however, in good standing, being credited in my last annual report.

According to custom I forwarded blanks to all the secretaries of the component societies for a report of the condition of membership in each county up to Nov. 15, 1910. The reports so received were used for the purpose of correcting the mailing list in compliance with the postoffice regulations.

Another report was asked for requesting details of the condition of every component society as to meetings, attendance, interest and all other information necessary for the use of the Councilors to whom this report was referred.

In my report last year I took rather a pessimistic view of the future increase in membership in the State Society. This was based on the fact that in the country at least, nearly all eligibles were already members and on the reports from neighboring states showing their net membership was a loss instead of a gain and consequently it gives me the greatest pleasure to be able to report that our gain of new members for the year was 502, reinstatements 345; we dropped 383, leaving a net gain of 464—death removed from our membership 51. In view of the fact that no special effort was made to gain new members this showing is highly gratifying.

The Lecture Bureau did not prove to be as popular this year as the year before. This I think was owing to the fact that there was no standing advertisement carried in THE JOURNAL to remind the secretaries and program committees of the existence of the bureau. However, it has done very good work and will I have no doubt in the future increase its usefulness.

The following is a list of lecturers who read papers in the counties set opposite their names:

Bureau	V. D. Lespinasse. Wm. Hessert.
Carroll	J. F. Percy. D. E. Eisendrath.
Douglas	Frederick Tice.
Fox River Valley Med. Ass'n Kane Co.	J. W. Pettit.
Iroquois-Ford	F. Kreissl. L. Harrison Mettler.
Jackson	J. L. Wiggins. J. W. Pettit.
La Salle	Frederick Tice. F. Kreissl. H. Douglas Singer. A. D. Bevan.
Lake	A. F. Halstead.
Lee	C. U. Collins. E. W. Andrews.
Livingston	A. H. Ferguson.
Mercer	H. B. Heminway.
Madison	A. C. Cotton.
Moultrie	J. W. Hamilton.
Marshall-Putnam	A. B. Middleton. J. H. Bacon. H. Douglas Singer. C. U. Collins.
Ogle	Carey Culbertson. J. R. Pennington. J. H. Stealy.
Whiteside	L. Harrison Mettler. Jno. L. Porter.

The voucher system of checks that was adopted last year has somewhat increased the labors of this office. I have drawn checks to the amount of \$10,297.69, during the last fiscal year.

It is a great pleasure to be able to state that the relationship existing between the various secretaries throughout the state and this office has been of the most cordial character. When one takes into consideration the enormous amount of correspondence necessary, it is a matter of congratulation that no serious errors have crept into our work. Many of our secretaries are really enthusiastic in their work and seem to be only satisfied when the best has been done. Respectfully submitted,

E. W. WEIS, Secretary.

Dr. Black moved that the report be received and placed on file. Motion seconded and carried.

Dr. Ensign moved that the secretary of the State Medical Society be instructed to extend by telegram to Dr. John H. Hollister of Chicago the remembrances and felicities of the society, and that if a reply is received it be incorporated and published as a part of the transactions of the society. Motion seconded and unanimously carried.

"HOTEL GREGSON, SANTA BARBARA, CAL., May 29, 1911.

"DR. E. W. WEIS,

"Secretary Illinois State Medical Society.

"*My Dear Sir:*—The kind expression of the Society expressed in your telegram has just reached me here in California, and it is needless to say that I appreciate such kind remembrance beyond expression. Not many of my earlier associates remain, but the kindness of the younger members begets in me feelings all the more grateful. There may be others of our society that have reached the age of 87 years, but if so I do not recall them. Pleasant memories cluster around the names of a whole procession who did their work so well and who have entered into rest before me. If health is spared I hope to meet a number of our members at Los Angeles in June. It would be a special pleasure if I might meet you there. For twelve years I have been spending my winters in California, but each year returned home in the spring. But now I propose to try a summer here in Santa Barbara, and, indeed, if reports are true I would come this way to cool off. As you see, in my old age I have taken to typewriting; this partly for amusement, but more to save my friends the trouble of deciphering my hieroglyphics. I hope you had a good meeting at Aurora, and that you will be continued secretary for life. If not asking too much, it will be a real pleasure if I may hear from you when your time may permit.

"With kind regards and sincere thanks for your telegram,

"JOHN H. HOLLISTER."

Dr. Zurawski: As a mover of the proposed amendment to the Constitution, namely, to Article V, after consultation with Dr. Black, who offered other amendments, we thought it would be well to have these amendments lie over for a year in order that the membership of the society at large may become acquainted with them; and as these amendments are somewhat radical in their scope and some of them will change completely the status of some of the component societies, we thought it would be better to have these amendments lie over for a year in order to permit the members to think over them; and I would therefore move

that they lie over for a year to be discussed and acted on at the next annual meeting of this society. Motion seconded and carried.

Dr. John A. Robison: I move the adoption of the amendment offered by Dr. Coleman, so that it may go into effect at once. Seconded.

Dr. Ensign: I move as a substitute that this amendment, like the others, lie over until next year. Seconded and carried.

Dr. Ensign stated that it had not been the custom to publish amendments, and there were two, if he remembered correctly, which were offered, neither of which was published in the transactions last year, and he thought it would be a good thing for the secretary to incorporate these and other amendments in the transactions so that the members could vote on them intelligently and understandingly.

Dr. A. M. Harvey, Chicago, moved that the House of Delegates take a referendum vote upon the amendments that have been presented to the house.

Dr. Noble rose to a point of order, and stated that the house had already passed upon the amendments, and in accordance with a motion they were to lie over until next year.

The Chair decided that this point of order was not well taken.

Dr. J. W. VanDerslice, Chicago, asked whether there was anything in the law of the state society by which a referendum vote might be taken.

The Chair stated that the Constitution provided for it.

Dr. VanDerslice did not think it was possible to take a referendum vote without providing for an election commission to have charge of it, and he asked whether it was possible for such a thing to be done.

The Chair stated that it lies with the House of Delegates to provide the election machinery if a referendum be submitted.

Dr. Ensign called attention to the point that the amendments had already been laid over for one year by motion, and at that time they will come up.

The Chair stated that he would reconsider his ruling on the point of order. He had ruled that the question of referendum had nothing immediately to do with the proposed amendments; but come to think it over the Chair believes that the whole subject ought to be laid over, and he so ruled.

Dr. Rice moved that a copy of the proposed amendments be sent to each component society, and that these societies instruct their delegates as to their views. Seconded.

Dr. Zurawski moved as an amendment that the secretary of the state society be instructed to have all amendments published in the ILLINOIS MEDICAL JOURNAL, so that copies will reach not only the secretaries of component societies, but every member of the state society. Seconded.

Dr. D. G. Smith, moved as an amendment to the amendment that the secretary publish an exact copy of the sections to be amended as they are now, and then the amendments, so that the members may know what the changes will imply; also that these amendments be published twice in the ILLINOIS MEDICAL JOURNAL, namely, in July, and the month before the meeting of the House of Delegates.

The amendment to the amendment was seconded, accepted, and the original motion as amended was carried.

At this juncture, Dr. James E. Stubbs, Chicago, second Vice President, was called to the chair, when President Cotton addressed the House of Delegates.

THE PRESIDENT'S ADDRESS

To the House of Delegates of the Illinois State Medical Society:

It has been customary for the president of this society to make a report. In accordance with the usual custom, following invitations from the component society officers, your president has visited sixteen counties in the state during the past year. At some of these meetings he presented a paper on some scientific subject, or discussed questions which were suggested by the society. Quite frequently the subject of organization was touched upon, but not always. Your president is supposed to report to this body his observations and conclusions from attending the meetings of these societies. The most obvious conclusion is that the State of Illinois is not yet safely organized, so far as unification of the profession is concerned along the lines we may follow in our work for the accomplishment of which we gather together. We need more enthusiasm in our local societies. As yet, more than one-half of the legalized practitioners of medicine in the State of Illinois are without the pale of the Illinois State Medical Society—in fact enough to form a counter organization should one ever be started. Your president views with alarm this state of affairs. If organization be of any great importance to the medical profession or to the people of the State of Illinois, it should be accomplished to that degree which will include a large majority of the legalized practitioners of the state. It is not for me in this brief time to attempt to suggest steps to accomplish this. Each one has his own ideas, but that it must be accomplished before we will ever arrive at any degree of safety is a self-evident fact, and I may throw out the hint right here that before we can unify the profession of Illinois we must exhibit a liberal democratic spirit along all lines, scientific, semi-scientific, supposedly scientific, social, ethical, political. We cannot afford in the presence of the enemy, namely, the obstacle to be overcome, to wrangle among ourselves and dissipate our energies. I would suggest in a liberal, broad, charitable, reasonable way that we give every man his opportunity.

In accordance with the idea of harmony and good will, it is unnecessary for me to say that all men who are men can meet and differ in their opinions on certain lines of policy, and I would not give much for any man who would not allow me to differ in my opinions with him in regard to methods of politics, religion, or sentiment. I believe we are all constituted in that way, but sometimes we forget. And so you will not misunderstand me if I should express a criticism on some of the things we do. I am not talking about anybody behind his back, because my first real meeting with the Council was when they asked me for a speech to try me out and to see what I thought, and I made the statement that I very much regretted the reelection of the three councilors who were elected last year at Danville. I did not know then who they were. I knew they had been reelected. They may have been reelected a second time, but I am not sure about that. I said that I very much regretted the reelection of these councilors, tried and true and trusted men as they are. The old broom serves a useful purpose, but nobody knows better than Pettit that the new broom sweeps clean, and what we need is new enthusiasm, and if one of the purposes of this organization is to educate the doctor, then let us place as many doctors in responsible places as we possibly can, particularly younger men, not only for the purpose of education, but for the unification of the old members. You know how common it is that when you ask some member of the society in regard to his apathy, he will say something like this to you, "Oh, what is the use? These fellows will run the society all right. I pay my dues and help keep up the organization." If you ask some of these men why they

do not take part, they will say that they do not get the opportunity; that there are too many others who want to run things.

If we had not stirred up the Chicago Medical Society a few years ago in regard to the distribution of honors, and responsibilities, we would still be in that same slow, indifferent, apathetic condition. If you ask some of these men why they do not go to the meetings, read papers and discuss them, they will say that there are plenty of others who will do that, and that they simply pay their dues, but pretty soon, on account of this indifference, they do not pay their dues. There is utility in the tried and trusted and experienced. I sympathize with every word that Dr. Ensign has said when he nominated an old veteran, who knows how and can do, but he no longer knows, with one foot in the grave, the experience that comes through the exercise of his function; but while there are some young men not as good as the present incumbent, they are likely to become as good. I want to lay these suggestions before you. Let us loosen up. Let us forget our personal and political preferences and our desire to meddle in the affairs of other people, as my friends down the state sometimes get mixed up with county affairs. While we know that a man who is tried and true will do the work better, there are others who are capable of doing good and efficient work, and it is questionable whether it is a wise policy to keep a man in office for a long period of time. I congratulate Weis on his fifteenth anniversary, although I voted against him for his wife's saks. (Laughter.)

Dr. Black: I move that the per capita tax for this year be the same as heretofore, namely, \$1.50. Seconded.

Dr. Clark, Chicago: I move to amend that it be \$2.00, including the tax for the medico-legal defense fund. Seconded.

Dr. Black: I do not think that motion is proper. We have no authority to vote a portion of an assessment for the medico-legal fund. That is settled. Heretofore the per capita tax has been \$1.50, and my motion is that it be \$1.50, as heretofore. If we vote to make a per capita tax of \$2.00, we are undertaking to change a by-law in a motion. The assessment for medico-legal defense is settled in the by-laws. It is only the per capita tax we have to settle.

Dr. W. L. Noble: The Medico-Legal Committee is a committee of the Illinois State Medical Society. It receives its funds from this society. The Illinois State Medical Society has presumed to give the Medico-legal Committee \$1. That is all right. The per capita tax, according to the constitution of the component societies, which is to go to the Illinois State Medical Society, is \$2.00. Out of that \$2.00 the work of the Illinois State Medical Society is carried on, and Dr. Black is in error when he tries to assume that the assessment of the constituent societies must not include the medico-legal committee tax.

Dr. Black: Article X, under "Funds and Expenses," says: "Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates, but shall not exceed the sum of \$2.00 per capita per annum, except on a four-fifths vote of the delegates present. Funds may also be raised by voluntary contributions, from the Society's publications, and in any other manner approved by the House of Delegates."

Dr. Harvey: Is it the purpose of your motion to include a dollar?

Dr. Black: No, sir.

Dr. Harvey: I take it, your tax would make a payment into the state fund of \$2.50.

Dr. Van Derslice: I would like to have this thing settled in some way. I would like to know by what right the Constitution has been trampled under foot, and we have been giving \$2.50 when the county societies have certainly objected to it, and I would like to have a ruling, first, on the question if the per capita tax does or does not include the medico-legal defense? That is a sum of money that has been paid out regularly; it is paid out through the regular channel of expenses of the Illinois State Medical Society. It is a fund set aside for a specific purpose, and in no way is it different from any other fund. I maintain that the assessment for the medico-legal committee is a part of the per capita tax, and as such this body cannot, without a four-fifths vote of the delegates present, vote to pay a dollar to the state and \$1.50 to the medico-legal committee. We must pay \$2.00 or less.

Dr. Corwin: It is the state society we are talking about. Article X says: "Funds shall be raised by an equal per capita assessment on each component society," etc. The funds and expenses of this society are fixed not to exceed \$2.00 for everything. Under the by-laws we find that a part of the expense which we bear goes to the medico-legal defense fund, and is fixed at \$1.00, coming out of the \$2.00. We have been paying \$2.50, and the object is to reduce that to \$2.00

Dr. Robison: I contend that we have a conflict here between the provisions of the Constitution and By-laws. (Here Dr. Robison quoted Article X.) I would suggest that the amendment of Dr. Clark be passed, making it \$2.00 per capita per annum (for 1912), including the assessment for the medico-legal committee.

There were cries of Question! Question!

The original motion, as amended, was put and carried unanimously.

Dr. Zurawski: In order to remove the discrepancy which exists between the Constitution and By-Laws, I move that we change the last four lines of Section 6, Chapter 9, of the By-Laws, so as to read that "a fund of \$1.00 shall be set aside from each member of the state society to apply to the medicolegal fund." Seconded.

Dr. Ralph Wheeler: I move as a substitute that the last six lines of the paragraph in Section 6, Chapter IX, of the By-Laws, be stricken out, and that "each member of the state society shall be assessed \$1.00 a year for this fund alone." Seconded.

Dr. Van Derslice: In view of the fact, as stated by Dr. Moyer, the medico-legal fund is not carried on in such a way as to meet with his entire approval, and we hope there will be a new medico-legal committee to work out a new scheme, I move that we lay the motion before the House on the table. Motion seconded and carried.

Dr. Corwin: I think it is opportune for this body to thank the medical profession of Aurora and the people of this city for their splendid hospitality, and I move we extend to them a vote of thanks. Motion seconded and unanimously carried.

On motion of Dr. Harvey, the thanks of the House were extended to the retiring officers for their efficient services.

On motion of Dr. Zurawski, the House of Delegates then adjourned *sine die*.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY

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JULY, 1911

THE REPORT OF THE COMMITTEE ON MEDICAL EDUCATION

This report, signed by all the members of the committee, will be found in the minutes of the Aurora meeting in this issue of the JOURNAL. It will be remembered that an effort was made to lay this report on the table. This was defeated by an overwhelming vote, and the Report remained before the Delegates as unfinished business when the House adjourned. It, therefore, rightly finds a place in the minutes of the meeting. The echoes of this report have not stopped ringing, and while in Denver, we heard delegates to the American Surgical Association, and the National Association for the Prevention of Tuberculosis, discuss the report and commend it. It was also heard in the east.

It appears that the Boston *Advertiser* took up Dr. Percy's report, and on May 22, under the caption "Preying Physicians," discussed the "Fight which is being waged in Chicago by the Committee on Medical Education of the Illinois State Medical Society." The *Advertiser* declared that this report offered an opportunity for Illinois to "clean house." Many of the citizens of Illinois would not have known of this editorial of the Boston newspaper had not Dr. James A. Egan, Secretary of the State Board of Health, in a characteristic way, undertaken to defend that sadly soiled organization, and in a letter to the Boston newspaper, a copy of which he furnished to the Springfield newspapers, endeavored to make a defense of conditions existing in Chicago. In order to defend Illinois

Dr. Egan takes occasion to refer to the exposure of certain fraudulent medical schools which existed at one time in Boston. It so happens that the writer was associated with Drs. Rauch, Secretary, and Reilly, Assistant Secretary of the State Board of Health, and Mr. Vincent B. Kelley, at that time reporter on the *Illinois State Journal*, in exposing the Bellevue Medical College of Massachusetts, at Boston, and is, therefore, perfectly familiar with all the facts in connection with this transaction. On referring to his old scrap-book he finds that this exposure was made in November, 1882, twenty-nine years ago, and, therefore, long before the redoubtable Egan had thought of studying medicine, and about the time he graduated from short pants. With this statement of facts in mind the concluding paragraph of Egan's communication becomes very amusing. Egan had about as much to do with closing the fraudulent Boston schools as he has to do with digging the Panama canal, to use his favorite expression. We give this part of Egan's letter:

"In conclusion as to 'fraudulent medical schools,' I will call your attention to the fact that it is not many years since (?) that the Illinois State Board of Health took it upon itself to expose, and practically cause the dissolution of the New England University of Arts and Sciences at Boston, the Bellevue Medical College of Massachusetts at Boston, the Medical Department of the American Health Society at Boston, and the Excelsior Medical College at Boston—all this when Massachusetts had no law for the regulation of medical practice, when, to quote from the *Boston Medical and Surgical Journal*, 'it was no longer possible for an ignoramus to practice plumbing, but any one could practice medicine.' This, remember, held good until the year 1894, several months after Chicago had closed her world's fair.

"*Since that time the Illinois State Board of Health has continued its crusade against the fraudulent medical colleges, granting the degree of M.D., and has put out of existence over a dozen in Chicago alone, besides some in other states.* In addition the board has caused the promoters of two institutions in Chicago to be put in jail.

"Trusting that the above will be of interest and value to you, very truly yours,

DR. J. A. EGAN.

THE ORGANIZATION OF THE STATE EXECUTIVE IN ILLINOIS

Under this heading Dr. Henry B. Hemenway, of Evanston, contributes an article to the June, 1911, issue of the *Illinois Law Review*, the official organ of the law department of Northwestern University. In the course of this paper he endeavors to show the inefficiency of the present organization and to propose an ideal form for the organization of the executive department. Dr. Hemenway, in the course of his valuable paper, makes the following remarks which will prove of interest to our readers:

1. "The constitution provides that the Governor shall nominate to the Senate such officers as he wishes to appoint. This is to insure that proper men shall fill the positions. While it is only fair that the primary appointing power be in the hands of the Governor, experience shows that an emergency provision is absolutely necessary. At present there are a number of vacancies in the state government—vacancies which have existed for years, in many instances. Thus at the present time, four out of the five members of the Board of Pharmacy, and five out of the seven members of the Board of Health are only *de facto* members, by the reason of the expiration of their terms, and no nominations have been made of successors, though the statutes call for the appointment of one new member of each board each year. In at least one case formal charges have been filed with the Governor, with evidence, but in the more than two years since two sets of charges were filed, the Governor has not found time to consider them. On the face of this condition it appears that the Governor is thus attempting to retain these officers against protest, by neglecting to hazard a renomination. He cannot be forced to make nominations by mandamus. Mr. Justice Breese has added to the opinion in the case of *People v. Bissell* these words:

"The executive has certain duties imposed on him by the constitution and the laws of the state. Should he fail to perform them, without justifiable reasons therefore, and the public be injured, impeachment and deprivation of office would follow."

"Rather than impose so heavy a penalty on the Governor in such a case it would seem proper to provide legally, that whenever during the session of the Senate the Governor fails to nominate a successor to an office whose term has expired, it shall be lawful for the Lieutenant-Governor to make such nomination; provided that the vacancy shall have continued one month during such session of the Senate. When the Lieutenant-Governor shall have made such nomination, the Governor should be restrained from acting until the Senate shall have rejected such nomination.

2. "One man in charge of each department. Individual responsibility, in addition to the power of appointment and removal of subordinates, also includes the idea of oneness. Administrative vigor, expedition, and certainty of action are only possible with one executive. Though strength is gained by making the membership of a legislative body numerous, it is lost by dividing the powers and responsibilities of a purely executive nature between the members of a board, and the weakness is in proportion to the size of that body. There is a form of administration which resembles judicial procedure, in which a board gives better results than would be possible for a single administrator. Examinations of applicants for license to practice medicine, pharmacy and the like should be conducted by more than one person. Thus we have in Illinois, according to the present statutes, license boards in medicine, pharmacy, dentistry, and veterinary surgery, as well as for

nurses, embalmers, accountants, architects, horseshoers (unconstitutional), and barbers (possibly unconstitutional).

3. "Some officials are prohibited from receiving pay. Thus, it is expressly provided that the members of the State Board of Health 'shall receive no compensation for their services.' Imagine the great responsibilities, and the time necessarily consumed in the interest of the general public, and *no compensation!* The very natural result is that either the members will seek to receive pay indirectly, or that the Board will become merely a political asset—a means to be used by the appointive power to manipulate elections for personal ends. In the place of selecting members for their competency, they will be chosen for personal friendliness, or subserviency. Because members of the Commission on Occupational Diseases were prohibited from receiving any of the funds appropriated for the work of the commission, it was necessary for a member to resign in order that she might be paid by the commission for making necessary investigations for that body—investigations which would occupy most of her time. In other words, the competent person was to be supervised by one less competent, or by one who did not devote his best time and thought to the work on hand. Commercial failure would overtake any mercantile or manufacturing concern which should attempt to operate on a similar plan.

"All officers should be paid salaries and they should not be dependent on fees. A license board, for example, which is paid by fees is tempted to so conduct examinations that the fees shall be as numerous as possible. It has been charged that the medical license boards of some states have thus bid for business by establishing reputations for leniency. Holders of licenses from such states may often obtain reciprocal licenses in other and more difficult states.¹ All fees received or fines collected by a department should be paid into the State Treasury, and no money should be paid out in support of department work, aside from appropriations made by the legislature. All departmental accounts should be audited by the State Auditor's office.

4. "ORGANIZATIONS OF DEPARTMENTS, TO DEFINE RESPONSIBILITY. According to the present statutes, there are upward of thirty separate administrative bodies in the state government, beside a large number of dependent factors. Because of the mutual independence of these administrative factors, there is more or less of duplication of effort, which increases the cost of government without compensatory advantage. Further, because the bodies are entirely separate, they may easily oppose each other. To illustrate: The State Board of Health has charge of the

1. The Illinois Medical Journal, February, 1911, p. 203, shows that from 1877 to 1897 the Illinois State Board of Health rejected 66.7 per cent. of applicants for license to practice medicine. In the latter year the present incumbent was appointed executive of the board. The next year there were a greater number of non-graduates applying than ever before, but the percentage of rejection fell to 23.9. From July 1, 1899, to Jan. 1, 1908, the Illinois board rejected only 4.6 per cent. of applicants. About the latter date there began a strong protest against the present régime, and since Jan. 1, 1908, to the present the board has rejected 16.4 per cent. of applicants. The cause and result of the leniency of the Illinois board may be seen in a table published in the Journal of the A. M. A., May 21, 1910, p. 1739. Out of 1,161 applicants who were licensed during 1909 in the various states of the union, by reciprocity with other named boards, 320 received their original license from this state—more than one-quarter of the whole. Iowa came second with 77, less than a quarter of Illinois' figures.

license of physicians, and that of pharmacy licenses druggists. The pharmacist's license gives him the right to 'recommend' medicines. When he does so, the State Board of Health prosecutes him. There is no means of harmonizing the ideas of these two administrative bodies, aside from an appeal to the Governor. In the past he has generally neglected to interfere.

"Another evidence of the present chaotic condition of state executive work may be found in the State Board of Health. Practically there are two boards, with identical membership and organization. One Board receives its support from the appropriations of the legislature, and its accounts are audited by the State Auditor. The other Board is supported by fees; its accounts are not published in detail, but after being audited by its own members are filed with the Governor. It employs its own attorney, and we are informed that the attorney frequently settles cases out of court. No detailed statement is published of such cases. Under the conditions it is very easy to suspect that state executive officers may be engaged in a system of legalized blackmail. The state should be above the slightest suspicion. This open door for fraud and misgovernment would be more firmly closed if, in addition to the auditing of accounts by the Auditor, all legal business of the state executive departments were to be conducted only by the Attorney-General's office.²

THE ADMINISTRATIVE FUNCTIONS OF THE STATE AS REGARDS HEALTH
MIGHT BE ORGANIZED AS FOLLOWS:

5. "Commissioner of Health.

Boards of Examiners in—

- a. Medicine, etc.
- b. Dentistry.
- c. Pharmacy.
- d. Veterinary Surgery.
- e. Embalmers.
- f. Barbers (if legal).
- g. Nurses (if legal).

Pure Food Commissioners and Deputies.

State Veterinarian.

Live Stock Commissioners.

Director of Water Survey.

2. House bill 813, 1907, Session Laws, 1907, p. 379, made certain changes in Chapter 91 of the Revised Statutes, adding certain sections. Sec. 2a provides that "the State Board of Health shall be empowered to establish a standard of preliminary education," etc. Section 3b provides that the members of the board, when acting as a license body, shall receive \$10 for each day employed, and also permits the board to fix a fee for the rating of each paper, all to be paid out of the fees received from candidates. The enacting clause and the title of this bill both fail to mention the contents of Chapter 126a, the eleventh section of which expressly provides that, aside from the secretary, "the other members of the board shall receive no compensation for their services." Is the said section 3b of the 1907 act constitutional? If not, is not the treasurer of the board liable to the state for the whole sum paid out under the statute? This is simply another illustration of the absolutely chaotic condition of the governmental administration in Illinois. An executive body acting for the state, using its position for the collection of funds to be divided illegally among the members of the body, auditing its own accounts and publishing nothing relative to its exact financial transactions, and this board, consisting of chiefly de facto members, because of the neglect of the governor to fill vacancies!

Lodging House Inspectors.

Commission on Occupational Diseases.

6. "The Department of Health may be taken as an illustration of departmental organization, as follows:

Commissioner.

Assistant Commissioner.

Administrative Assistants.

Infectious Disease Inspector.

Assistants.

County and Local Officers.

Veterinarian.

Deputy Veterinarians.

Occupational Disease Investigator

Lodging House Inspector.

Assistants.

Chief Dairy Inspector.

Assistants.

Laboratory Chief.

Chemist.

Bacteriologist.

Pharmacist.

Water Analyst.

Food and Drug Inspectors.

Biologist.

Recorder of Vital Statistics.

Assistants.

District Registrars.

Chief Clerk.

Correspondence Clerks.

Accountant.

Assistants.

Librarian.

Records Assistant.

Library Assistant.

Editor.

License Council.

Examining Board for Physicians, Surgeons, Midwives, Embalmers, Nurses (and Barbers), Pharmacists, Dentists, Veterinarians.

Sanitary Engineer.

"Boards of examination under the Health Commissioner should have nothing to do with the business side of the license question. All money should be paid to a representative of the Commissioner, outside of the Board of Examiners, and the receiver of the money should have nothing to do with examination questions before the examination has been completed. The license should be issued by the Commissioner of Health, on the written recommendation of the Board. There should be a provision for appeal from the action of the Board of Examiners. At present an applicant for a license in medicine, for example, who may have

been refused unjustly, and on purely personal grounds, has two possible recourses. He may apply to the courts for a mandamus; but mandamus will not lie where the action of the Board is discretionary. Under our supposition, the applicant could get no relief from the court. He might appeal to the Governor; but without a special technical education the Governor would probably refuse to act. If a council were composed of one member from each of the examining boards in the department, with the Commissioner, such a council might very properly hear and adjudicate the complaints of applicants for license. Such a body might also reasonably try cases for revocation of license. Further, such a body should pass on every case where the holder of one license is accused of violating the statutes relating to another license board, and no prosecution for such cause should be undertaken in the courts until cause has been found by the council. It is probable that such a procedure would decrease the friction between different professions, and add to the dignity of all. It is difficult to see the necessity for so many examining boards as are now provided. The medical board now examines also midwives and embalmers, and it should be competent to examine nurses and barbers."

SEVENTH ANNUAL MEETING OF THE NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS

At Denver, June 20 and 21, we attended several sessions of this association and heard the address of Dr. William H. Welch, the President, and the remarks of Dr. M. P. Ravenel, of Madison, Wis., President-elect of this great organization. Dr. Welch delivered an address remarkably full of instruction and suggestion, from which we, from memory, make the following extracts: He first recalled that since the last annual session Professor Koch, the discoverer of tubercle bacillus, and founder of the science of bacteriology, had passed to his reward. He then pronounced a well-merited eulogy on the achievements of Dr. Koch. He found it necessary to differ with Koch in several of his contentions, yet on the whole the teachings of Koch from the beginning to the end of his career were found epoch making. The one serious error which Koch seems to have committed was his contention that tuberculosis in cattle is a negligible quantity.

Dr. Welch said that two great white rivers flowed into every city, the one of water, the other of milk, and it was equally important that both of them be pure and free from danger.

Probably every person born into the world is infected with the tubercle bacillus, and while this is a menace it is in a way a protection. This slight infection renders one immune to any further infection, provided it is not of an overwhelming quantity. This doctrine of immunity was first developed by Jenner in his observations on the action of small-pox vaccine.

If a single life had not been saved or a single case of tuberculosis had not been prevented, all the labor and money expended in the fight against this disease has been worth while, because of the knowledge of the value of fresh air, pure food and exercise in the open which has been developed.

Dr. Ravenel in his remarks, which we hope to print later, paid his respects to the notorious Shurtleff committee of the Illinois Legislature, and to the notorious Illinois State Board of Health which it appears was hand in glove with Shurtleff and his committee in placing Illinois in a disgraceful position before the world. It appears from Dr. Ravenel's remarks that nearly all the tuberculous cattle in Wisconsin are bought up by dairymen in Illinois, and the milk from these cows is shipped to Chicago and other large cities, which by reason of the law pushed through by the Shurtleff committee are not allowed to protect these communities from this danger. When Dr. Ravenel's full paper is received we expect to make further extracts from it and comment on the subject.

Correspondence

PROPOSED AMENDMENTS

To the Editor:—At the meeting of the House of Delegates held on May 18 last, the following Articles of the Constitution and Chapters of the By-Laws with proposed Amendments attached were ordered to be printed in the July and April JOURNALS.

E. W. WEIS, Secretary.

ARTICLE V.—HOUSE OF DELEGATES

The House of Delegates shall consist of (a) Delegates elected by the Component Societies; (b) the Councilors; and (c), ex-officio, the President and Secretary of this Society, and the Chairmen of its Standing Committees. It shall be the legislative body of this Society, and shall conduct all business, except such as is otherwise provided for by the Constitution and By-Laws. All recommendations of the House of Delegates dealing with the acquisition or disposal of property of any kind, or with the appropriation or expenditure of funds in any way must be approved by the Council before the same shall become effective. Twenty Delegates shall constitute a quorum for the transaction of business.

(Offered by Black)

ARTICLE V

Lines 14 and 15 to read

“come effective. Twenty delegates representing not less than ten counties shall constitute a quorum for the transaction of business.”

(Offered by Zurawski)

ARTICLE V—HOUSE OF DELEGATES

The House of Delegates shall consist of delegates elected by the Component societies and President of this society ex-officio. The other officers, Chairmen of Standing Committees and Chairmen of Scientific Section may take part in the proceedings of the House of Delegates but

without the right to vote. It shall be the legislative body of this society and shall conduct all business, except such as is otherwise provided for by the constitution and by-laws. All the recommendations of the House of Delegates dealing with the acquisition or disposal of property of any kind, or with the appropriation or expenditure of funds in any way must be approved by the Council before the same shall become effective. Twenty Delegates shall constitute a quorum for the transaction of business.

ARTICLE III.—COMPONENT SOCIETIES

Component Societies shall consist of those county medical societies which hold charters from this Society.

(Offered by Black)

ARTICLE III

Line 2 to read

county or local Medical Societies which hold charters

SEC. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the Councilor for the district, if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

(Offered by Black)

CHAPTER X—SECTION 4

Line 2

introduce after the word county the following: "Provided that in counties having 300 or more members branch county societies may be organized and receive regular charters as component societies upon application to the council in the usual manner and provided that each branch county society thus organized shall contain not less than 75 members who shall live within a definite circumscribed district and who shall constitute not less than 50 per cent. of the legally qualified physicians living in that district.

SEC. 3. The general section, or each section, as the case may be, shall elect its own chairman and secretary.

(Offered by Coleman)

CHAPTER IV—SECTION 3

And the section officers for such scientific work shall be elected for two years, and the President and Secretary of such sections shall go out on alternate years, and that the committee on scientific work meet as soon as convenient after the adjournment of the State society.

REPORT OF THE COUNCILORS, PREPARED BY CHAIRMAN CARL E. BLACK *

*To the House of Delegates of the Illinois State Medical Society:—*In accordance with the instructions and by-laws of the Illinois State Medical Society, it becomes my official duty, as chairman of the Council, to make a report for that body of the work done during the interim since our last annual meeting.

* Reading of this report rendered impossible by the action of President Cotton.

Three meetings have been held during the year. Two of these were in Chicago and one in Aurora. It has been the custom of the Council for several years to hold its April meeting at the place of the approaching annual meeting in order to talk over with the local committee the details of arrangement.

There have been no charges filed with the Council and no trials held during the year. In fact, there have been no special difficulties between members or local societies which have had to be taken up by the Council.

LOCAL SOCIETIES

In the main, the work of the county societies has been satisfactory. As usual, there are exceptions to this rule. For one reason or another, a few of our county societies still exist in name only and in one or two instances the councilor has found it necessary to reorganize the society. In a number of counties meetings are held only once a year and even this meeting is secured with some difficulty. The general condition of the county society improves each year and the total amount of work done throughout the state as well as its character is much better than that of a few years ago. While it is desirable to introduce new blood and spirit into the work of county societies, your councilors would emphasize the necessity of making the office of secretary somewhat permanent. We believe that where a capable and interested man is found in the position of secretary, he should be retained there as long as possible, because familiarity with the work is of the utmost importance to the life and efficiency of this society. A new medical society has been organized in McHenry County which was formerly included in the Fox River Valley Medical Society. This was arranged by the councilor for that district and accomplished by a mutual consent of all parties.

MEMBERSHIP

No special effort has been made by the Council to increase the membership during the past year. Notwithstanding this fact, however, a considerable addition has been made to the general membership throughout the state. Your president has visited many localities and has devoted his time and energies largely to questions of organizations. This work has had a good influence and has increased the attendance, interest and membership. Practically all of the county societies have been visited by the representative councilors.

COUNCILOR REPORTS

At the meeting of the Council to-day each councilor read a report giving in detail the condition of each county society. Your councilors still have to complain of the incompleteness of county reports. In many instances the secretaries fail to send these reports and in other instances the reports sent contain little or nothing except the list of names. We would again urge upon the county secretary the desirability of a more detailed report of the actual conditions of his county.

THE JOURNAL

The JOURNAL has appeared regularly each month and information from various sources indicates that it has been satisfactory to the members. In the early history of the JOURNAL there were a great many just complaints regarding its sphere of usefulness, but during the last two or three years the Council has reason to believe that the JOURNAL has been almost uniformly satisfactory. Necessarily there are occasionally differences of opinion between the editor and some member regarding material which appears in its columns. We have made some inquiry into these matters and find few instances in which material offered by members has been refused and in every such instance we have been constrained to approve the action of the editor. The quantity and quality of the advertising appearing in the JOURNAL has improved each year. We have had no complaint during the past year regarding any advertisement. It is the policy of the Council to follow the advice of the Council on Pharmacy and Chemistry of the A. M. A.

in accepting advertising. The detailed report of the editor up to January 1 has already been published in the JOURNAL.

We would again call your attention to the suggestion of the Council made in two previous reports regarding the weekly or semi-monthly issue of the JOURNAL. At the January meeting of the Council in Chicago, the president of the Chicago Medical Society discussed with us the advisability of a weekly JOURNAL and expressed the opinion that the membership in Chicago would be greatly benefited and would heartily approve of such a proposition. We wish again to call the attention of the delegates to the question of issuing it weekly or at least twice a month. Your Council is unanimous in recommending the more frequent issuing of the JOURNAL.

TREASURER'S REPORT

The report of the treasurer up to January 1 has been published in the JOURNAL and it is not necessary to repeat the details here excepting to remind you that the balance is on the right side, notwithstanding the fact that you have been increasingly liberal in your expenditures.

INDEXING OUR TRANSACTIONS

Your Council would respectfully recommend that the transactions of this society from its beginning to the present time, be carefully indexed. The committee from the Council has made an estimate of the cost of this work and believe that it could be done for less than \$1,000. We think that such an index would be a very important volume which could be placed in the hands of every member of the State Society without additional expense. That is, we believe that in the year and a half or two years which would be required to get such an index compiled and printed, sufficient funds could be saved from our annual expenditures to pay for it and send it to each member as supplement to our JOURNAL.

PREVENTIVE MEDICINE EDUCATION

Your Council would suggest that the Illinois State Medical Society take a more active part in a campaign of education of the laity along preventive medicine lines. Such a campaign is being carried on over the country. We would suggest that a list of volunteer lecturers on this subject be secured and published from which local societies and other local organizations can secure speakers. It has been suggested to us several times that there should be more lecturers from different parts of the state. The Public Health Education Committee of the A. M. A. feels the need of men and women who are prepared to give Public Health lectures. There are many of our members who could do this and the secretary for Illinois of the Public Health Education Committee of the A. M. A. has requested that this matter be brought to the attention of the House of Delegates of this Society. Through the various agencies at work, a demand has been created for health talks, even in small towns. This demand should be supplied through the component county societies. Another phase of the same work is furnishing to the local press, health articles for instance, on pure milk and water and the contagious diseases of children. As the matter now stands, most towns placard and report diphtheria and scarlet fever and few if any consistently placard and report chickenpox, measles, whooping cough and mumps. The first step toward stamping out of contagious disease especially among school children is a uniform method for caring for the contagion. The opinion that the contagious diseases of children are a dispensation of providence has so long been established that a great deal of instruction given with authority is required to teach the public a different etiology. We have also been requested to call your attention to the feasibility and propriety of the State Society furnishing leaflets on these and allied subjects, including social hygiene. We respectfully commend this matter to your attention.

MEDICAL EDUCATION

Much of the time and energy of your Council during the past year has been devoted to a discussion before the local societies and through your JOURNAL

of the question of Medical Education, because we consider this the most important question before the profession to-day and one which can only be settled right by a full and frank consideration in all its phases.

The Council of the Illinois State Medical Society stands as a unit for all that has been accomplished and is being attempted by the American Medical Association. We stand for the purposes of this Society as expressed in its constitution, to wit: "To extend medical knowledge and advance medical science; to elevate the standards of medical education, and secure the enactment and enforcement of just medical laws; . . . to guard and foster material interests of the members and protect them against imposition; to enlighten and direct public opinion in regard to great problems of state medicine." We believe we are carrying out these purposes in standing by the work of the Council on Medical Education, and the Committee on Medical Education of the Society.

While we have not been unmindful of other evils, our efforts have been centered more particularly on Medical Education on account of the low quality of some of its medical schools. We are not unmindful that Illinois has some of the best medical schools in the country within her borders and for these we gladly give a full measure of praise. When we contrast these with some of the "diploma mills" which exist as parasites infecting medical education, the present conditions are all the more lamentable. This will account for our attitude toward our own State Board of Health, which we believe has failed to avail itself of the opportunity to use its full authority and influence for the betterment of medical education, even under what must be admitted is an imperfect law. What we need, and have sought to secure is a State Board of Health which is in sympathy with higher ideals and of sufficient ability to promote progressive medicine, in place of the present Board of Health, which does not seem to comprehend either the present or future demands of medicine and who, by their attitude, have placed themselves in the position of defenders and apologists for the existing order of things. While they pretend to desire the higher standards for which your Council is contending, they have done nothing tangible to promote these ideals, and their sincerity may well be called in question when we note the fact that their strongest and only organized support comes from the men and "interests" who are opposed to the ideals which we believe all true physicians should support. We are well aware that our position on this question has provoked some criticism from many good members of our Society. The arguments made against this position have often been so specious and presented by men so shrewd that it is no surprise that members of more than ordinary intelligence, ability and sincerity have, for the time being, been misled. We assume that the great body of the profession stand for its uplift and we believe the evils which we have attacked must be corrected before medicine can make substantial progress.

We believe that as your councilors chosen to transact your business during the interim between the annual meetings of this body and to visit each component society and discuss with them the great problems of the organized profession and to conduct your JOURNAL, we would be most derelict in our duty if we failed to call attention of all members to existing evils, of which you may or may not be aware, but more particularly to the insidious methods which have been adopted to make you a party through your accredited delegates to further the schemes of the "interests" which have been assailed. The indications are that the delegations controlled by these "interests" will act as a unit in all matters of vital importance, and in opposition to the expressed purposes of this Society. This assumption is based upon what has been done and attempted by the men who compose such delegations. If you believe your Council is right in the position we have taken upon these great questions, then we appeal to you to uphold the honor and dignity of this society and of the great profession to which you have the honor to belong.

If the medical profession of the State of Illinois is to be saved from the disgrace and humiliation of being dominated by the mercenary interests which we have thus far so successfully assailed and committed to policies to which our best interests are opposed, it must be done by the delegates who are not owned and

controlled by those interests which are opposed to higher and purer methods of medical education; the enforcement of the Medical Practice Act in the interest of high and uniform standards; and an honest and consistent medical journalism. All of these are fundamentally educational questions.

During the past nine years the medical profession as represented by the American Medical Association and its coordinate state and county branches has accomplished more for the improvement of the profession and for the good of the public than during all the previous years of its existence. It has attacked evils that were so powerful financially, and ramified in so many directions, that the problem of attacking them seemed almost too large and too difficult an undertaking. However, after much deliberation, and with a full appreciation of the obstacles to be expected, and the difficulties to be encountered, the patent and proprietary interests, and the low grade colleges and diploma mills, were systematically and truthfully exposed. These interests first assailed the organized profession from without by circulating broadcast pamphlets of various kinds, charging the National, State and County Societies with being dominated by "political doctors" adopting "confiscatory methods" and "legislative schemes which were unwarranted and even infamous." Newspapers were furnished with all kinds of misinformation as to the animus of the attack upon these interests. Such an attack was too open and the motives too apparent to make it successful. These mercenary interests then changed their tactics. They secured the aid of crafty men in our own profession and in our own organization. Articles were published in such medical journals as would print them; addresses delivered before medical societies which would tolerate them; and the press was enlisted where it could be bought or deceived. Hundreds of thousands of pamphlets and reprints were circulated at an enormous expense. It is doubtful if a more expensive effort was ever made for a similar purpose. It is apparent that the funds to defray the expenses of this campaign were not supplied by those who were known to be identified with it. The American Medical Association and such component state and county societies as assumed the position taken by your Council were charged with being a "trust" which seems to be a good word to juggle with nowadays.

Finding these onslaughts only drove the profession into a closer alliance, they have recently adopted the course of attempting to get possession of the machinery of the organized profession. By devious and even questionable methods they have succeeded in obtaining control of some of the component branches of this society and the delegations from these societies by presenting a solid front at this meeting, hope by the use of the same methods, to obtain control of this society. This is intended simply as a stepping stone toward the control of the larger and more formidable organization, the American Medical Association. With this accomplished in whole or part, they will seek to undo all that has been done, even to the extent of turning the machinery of the organized profession to the furtherance of the very evils which it was organized to correct.

The manufacturers of proprietary remedies, the proprietary medical journals, the proprietary medical colleges and the State Board of Health are all more or less hurt by this new order of things and are arrayed against the organized attempt to correct the evils which have grown up with, and become inseparable from, these several institutions. Their combined influence together with that of the medical politician who has taken advantage of this opportunity to ride into position and power which he could not attain upon his merits, makes an opposition so formidable as to threaten not only further progress, but also to undo much that has been accomplished. This situation is the inevitable result of an attempt to correct evils of slow growth and long standing which have so gradually and insiduously insinuated themselves that we have hardly been aware of their existence and for this reason we consider it our duty to bring the present situation plainly and prominently to your attention at this time. It is only just that this House of Delegates should fully understand the position assumed by members of your Council. You have a right to know what we have been doing and trying to do

since we last met and you have a right to the conclusions to which we have arrived in our study of the problems which confront the profession of this great state. We have sought by every honorable means to represent what we conceived to be the highest and best interests of the profession. All these matters will be before you in one form and another for your consideration at this meeting and the future progress or decline of medical organization, medical education and medical institutions in this state is largely in the hands of your honorable body.

CARL E. BLACK, Chairman.

OFFICERS OF CHICAGO MEDICAL SOCIETY CRITICIZE AURORA MEETING EDITORIAL

CHICAGO, June 16, 1911.

To the Editor:—The June issue of the JOURNAL just received, and your editor's remarks concerning the Aurora meeting were carefully read, and I do make very serious objections to certain remarks you made, without having the slightest knowledge thereof or facts to bear out your assertions.

First. The state tax paid by the Chicago Medical Society was \$5,487.50, this represented 2,195 members who have paid their dues and are in good standing and allows the Chicago Medical Society 29 delegates. The trustees never had any intention, or never would think of such a political stoop as to take money from the reserve fund and pay the current dues of the members, in order to secure a larger delegation.

If you do not wish to accept this as the true facts the books of the treasurer, as well as the minutes of the trustees' meetings, are at your disposal. It is all good and well to make remarks, but those remarks or assertions must be true, otherwise kindly retract the same in your next issue.

Second. Are your remarks concerning the delegate, Dr. T. F. O'Malley. Dr. O'Malley was duly nominated and elected Alternate Councilor at the October meeting of the Council of the Chicago Medical Society, at which time the delegates for the State meeting are usually elected. This can be certified to, by the publication in the *Bulletin of the Chicago Medical Society*, dated October 15, 1910.

As you have taken the liberty of commenting editorially upon these things, I request that you publish this letter in your next issue of the JOURNAL. It might perhaps be possible, were you an officer of this society, that you would use the funds of the Society to pay arrear dues of the members, but the present, or past, or future officers of the Chicago Medical Society are above such things.

Evidently your interest in the Chicago Medical Society is a Canadian thistle upon which you are sitting and hesitate to remove yourself therefrom.

Very truly yours,

GEO. F. SUKER.

GEORGE F. SUKER, M.D.

July 4, 1911.

31 North State St., Chicago, Ill.

Dear Doctor:—Your letter of June 16th at hand. I note that you make serious objections to certain remarks in my account of the Aurora

meeting, and I am very willing to take up this matter with you notwithstanding your gratuitous allusions to my motives, and certain insulting remarks regarding myself personally.

Regarding your first objection, I did not say that the trustees had taken any money from the reserve fund, and you cannot twist my language to such a statement. I did question whether there were at the time of the Aurora meeting enough members in good standing to entitle Cook County to as many as 29 delegates, or the representative of 2,175 members. My reasons for this belief and statement I can very easily and plainly give.

The issue of the *Bulletin of the Chicago Medical Society*, for April 29, 1911, sixteen days before the meeting, showed 1,617 paid members, and 783 delinquent. It was largely on this report that I questioned the right of the Chicago Medical Society to have as many as 29 representatives in the House of Delegates. This question is only partially lessened by the fact disclosed in the *Bulletin* of June 10, by which it appears that there were 2,056 members of the Chicago Medical Society who had paid in full, and 355 were delinquent. Giving you the benefit of even the June 10 figures, the Chicago Medical Society would be entitled to only 27 delegates, and I feel sure that at the hour of the meeting of the House of Delegates there were less than 1,900 members of the Chicago Medical Society who had actually paid dues which entitled them to representation in the House of Delegates in the State Medical Society.

Second, regarding Dr. O'Malley. I did not say as I might have truthfully said, that Dr. O'Malley was in a pitiable state of intoxication at the time he made the statement to me. I think it was Dr. Johnson of Champaign who was standing at my side when Dr. O'Malley came up and engaged me in conversation, and made the remarks which appeared a little strange to me, and which I mentioned without trying to explain their significance.

Before publishing this answer to your letter, I await an explanation from you regarding the facts as I read them from the *Bulletin* of your society. If I have not told the truth please designate the truth.

Yours truly, GEO. N. KREIDER, Editor.

June 16, 1911.

To the Editor:—I notice in the June number of the *Illinois Medical Journal*, about the center of the page (457), you mention my name and say:

“Notwithstanding this the downstate men stood almost united against the disturbers, and the result was shown finally when the only man they put over was Ferguson, who was elected delegate to the A. M. A., and this was done in a manner scarcely legal, as we shall elsewhere show.”

My dear Doctor, I am very anxious to know what you mean by “scarcely legal.” To my mind the election was either legal or illegal. I was not at this meeting and this is the first that I have learned of the

"illegality" of my election. I have read your "explanation," but it does not explain, nor does it show that President Cotton's ruling was illegal.

I regret to see in this issue of the JOURNAL a clearly partisan tone from the Editor.

Yours very sincerely,

A. H. FERGUSON.

A. H. FERGUSON, M.D.,
4619 Grand Blvd., Chicago, Ill.

July 4, 1911.

Dear Doctor Ferguson:—I find your letter of the 16th inst. on my desk on my return from Denver. This explains my delay in answering.

I did not say your election was illegal, the expression being that "it was scarcely legal." Quoting from the opinion of the authority on page 761, I note "The correct ruling, therefore, would have been to have held two delegates chosen and the question of the third delegate would either have been decided by the Chair, himself, on the tie between the two 53-vote candidates or relegated to the convention to vote on the remaining three candidates, viz., Dr. F., Dr. W., and Dr. R., to choose from such three remaining candidates the third delegate."

No experienced parliamentarian would uphold Dr. Cotton's action in throwing out the first ballot. Two of the men were certainly elected, and this leaves a cloud on *any one* elected by the second ballot, inasmuch as the result might have been different, and I have reason to believe would have been different had the two highest candidates been eliminated.

This is my honest opinion of the matter. I had no idea of being partisan in it or any other of the comments on the Aurora meeting.

I have had several letters commending my account of the Aurora meeting from delegates who were there. One from Lake County reads as follows:

"I congratulate you on the way you handled the report of the State Meeting. Telling the truth unadulterated."

Yours truly, GEO. N. KREIDER, Editor.

THE COLLEGE, HOSPITAL AND DISPENSARY ABUSE

CHICAGO, June 30, 1911.

To the Editor:—Please allow me to thank you for your editorial in last month's Journal. While I am aware that I do not agree with all my confrères in encouraging you in the stand that you have taken as representative of the State Society, yet I feel that the editorial but reflects the psychology of the times. That a great change must be brought about in the methods of clinical teaching in the larger cities must be apparent to any one who gives the matter any serious attention. The small medical college has survived entirely through the influence exerted by the clinical and professional prestige. It is dying hard because the

men who uphold them will not resign their prestige without a struggle. The ideals, however, for better clinical teaching are in direct accordance with the standards set by the A. M. A., and no amount of opposition can keep it back although opposition may for a while delay its coming. The attempt to better the conditions is in direct accord also with our effort in the Chicago Medical Society on the Dispensary and Hospital Abuse Question and in which so far we have been side-tracked. The only effort made has been to attempt to saddle even greater hardships upon us.

Dr. Palmer, before the C. M. S. some years ago, showed how this influence is reaching out hundreds of miles into the country and injuring the country practitioner.

And what may we expect of institutions that we build up which are controlled by those who to a great extent at least are antagonistic to our own interests? The profession in Chicago has been landed several black eyes in the last year by institutions which they have practically created, but which are not in their control. The lesson learned is that didactic teaching should be under the control of the profession, but clinical teaching and clinical work in institutions must be put under the control of the profession and used for the benefit of the whole profession and used for scientific and educational purposes.

New York, Philadelphia, Baltimore and other cities are looking for relief from the same influences which are acting so detrimentally to the profession in Illinois, although these cities were never cursed with so many small medical schools as we are in Chicago. It is the prestige and influence of the medical men themselves which have made the hardships possible in these cities, and this to a great extent is intensified in Chicago, which is overrun with separate units of teaching and all supported by the profession who gain very little while the institutions are growing, and, like the snake in *Æsop's* fable, are ready to injure the profession when they have opportunity.

The lesson learned is that the profession must control the clinical and institutional work and not they control the profession. This means that in the larger cities the profession must go into the dispensary and hospital work on their own accord and invite the educational institutions to send their students to them for the clinical part of their education, but the student must have no advantage over the older practitioner in opportunities for clinical study.

Organization is the only hope for the profession, and that organization which will carry out the will of those who desire that the law of ethics as expressed in the golden rule shall be the basis of their conduct.

The fight is on. Doctor, do not swerve from these high ideals, for it will ultimately mean a greater general practitioner who will give a better and greater service to humanity, and the mushroom institutions and cults will disappear and the true physician will then come to his own.

Sincerely,

DANIEL S. HAGER, M.D.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY

The regular monthly meeting of the Adams County Medical Society was held on Monday, June 12, at Chamber of Commerce Rooms with President J. B. Knox in the chair. After the usual business routine the public health and legislative committees were authorized to meet with the city council to draft a set of resolutions regarding some of the sanitary conditions of the city.

A resolution was introduced by Dr. Nickerson commending *Collier's Weekly* for an article which appeared in their issue of June 3. The editorial is entitled "Liberty" and turns the light on "The National League for American Freedom." It was moved and seconded that this "editorial be given to our three local papers for publication."

Adjournment for luncheon to Hotel Newcomb. Reassembling in the afternoon the application of Dr. D. G. Stine of Quincy, a graduate of Harvard Medical School, was read and referred to the censors. Our delegate to the state meeting at Aurora, Dr. J. H. Rice, gave his report. He was followed by the secretary and Dr. Nickerson.

Dr. F. Ruth of Paloma read a very scientific paper on "Indigestion." A general discussion followed which was participated in by Drs. Christie, Nickerson, Rice and R. J. Hinton of Jacksonville, Ill.

On motion meeting adjourned.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, April 19, 1911

The meeting was called to order by the president, Dr. Alex. H. Ferguson. Drs. Chas. S. Williamson and E. S. Moore presented a "Specimen of a Rare Case of Congenital Heart Lesion in an Adult." Dr. L. L. McArthur presented a "Surgico-Neurological Borderline Case, with Presentation of Same." Dr. Frank X. Walls read a paper on "Pyloric Stenosis of Infants."

DISCUSSION ON THE PAPER OF DR. M'ARTHUR

Dr. Gustavus M. Blech: The subject of artificially maintained wounds has been very thoroughly worked out by Russian army surgeons. To-day I received a journal in which I note that Violin, who has done a great deal of work, and reported many cases, says that in the Russian army many resort to all sorts of methods to claim discharge. The principal trick seems to be to produce and maintain artificial ulcers. The pathologic findings are very puzzling in these cases and until the surgeons are able to get the men into casts, or get orderlies to watch them and expose the trick, they cannot understand why, with antiseptic methods of procedure they do not heal. However, this would hardly come under the category of the case mentioned by Dr. McArthur.

I have known of young men suffering with Raynaud's disease where the surgeon began by removing one finger after another, then portions of the arm without results, and I am glad to hear a surgeon like Dr. McArthur come before us with the warning to use extreme care in adopting surgical measures to these borderline cases.

We have all suffered from our allegiance to the modern school of pathology. Without a lesion no disease, though on the other hand, every lesion does not always mean disease.

Surgery, like internal medicine, has to free itself from such prejudices; it, too, must not overlook the individual over the lesion.

Only by doing so will the art of surgical technic be rational as well.

Dr. Geo. G. Davis: I wish to cite a case which somewhat resembles Dr. McArthur's. The object in this case was not to stay in the hospital, but to get out of work. I had occasion in '97-'98 to examine a great many criminals and in one young man I found a very severe inflammation over the dorsum of the right hand. After examination I made out objects an inch or an inch-and-half long under the skin. I found three in the hand. I asked the boy if he remembered any accident by which he had run pins or small nails into his hand. He said he had not run any nails or pins into his hand, but further close questioning elicited the fact that he had deliberately put broken safety pins into his hand to get out of work at the Bridewell.

Dr. H. M. Richter: In reference to this patient of Dr. McArthur's I will say that in the course of her wanderings, and while she still had her arm, she was referred to me. I do not recall whether it had a sinus at that time or not. She gave me the history of her operations and I made her admit that she had deliberately kept the wound open and in going over the matter with her she stated that she was afraid the surgeons were going to get it to heal too quickly.

Dr. Friend: The patient came under my care at the Michael Reese Hospital for a persistent sinus leading to the glenoid cavity of the scapula, which under various curettings did not heal. The skiagraph showed an extensive necrosis of the glenoid cavity and it was thought best to remove the entire scapula. What brought about this necrosis is problematical.

DISCUSSION ON THE PAPER OF DR. WALLS

Dr. H. M. Richter: My experience with these cases has been confined almost entirely to Dr. Walls' patients. From a surgical viewpoint these patients have all looked to me like clear-cut cases of intestinal obstruction with the obstruction high. They vomit everything.

The constipation is so marked that I am not sure you can appreciate how complete it was from Dr. Walls' statement that there were "some bowel movements." They were so very slight that they could hardly be termed "movements" and usually there was only colored mucus.

The vomiting, the constipation and the distended stomach and collapsed abdomen all spoke for an obstruction high up. I am sure that in an adult under any ordinary circumstances we would look upon one presenting the symptom-complex of these cases as clear-cut cases of obstruction. So it seemed to me in studying these cases not to be a question of whether we had an obstruction, but whether the obstruction was of a permanent character.

I have operated upon nine cases. In eight of these cases we were able to palpate before operation this tumor at the pylorus which Dr. Walls has described. It was a hard, easily-felt mass, clearly outlined. They varied somewhat in size in the various cases.

It seemed to me that the spasmodic cases differed from the hypertrophies merely in degree.

The question arises as to what is the best type of mechanical relief. The simplest is divulsion of the sphincter. A dilator is passed into the pylorus and the pyloric muscle is stretched, just as you would stretch a sphincter during a hemorrhoid operation. This operation, however, has been accompanied by just as high a death rate as the others I shall mention.

The second operation that has been suggested is the pyloroplasty, either simple or modified. The third is a gastro-jejunostomy.

Of these the operation on the pylorus appears to be the more rational. It appears to give a more nearly physiologic result than the posterior gastroenterostomy. Practically, however, the mortality has been about as high, and there has been no demonstrable change in the metabolism either in animal experimentation or on human beings who have been subjected to the operation of gastroenterostomy. I have not mentioned the pylorotomy because to date the mortality has

been 100 per cent. Up to date results from gastroenterostomy have been permanent and good.

Gastroenterostomy in the adult has been followed by some results that were not good. In past times we had the vicious circle. Most of the unpleasant sequelæ have been due to faulty technic. The vicious circle is not a vicious circle, it is an obstruction of the intestines.

Of the first cases operated on one has since died. It was operated on in the summer and later came back to the hospital. It was brought into the hospital in August, having typical gastrointestinal food disturbance. There was no indication of obstruction and nothing to indicate that this trouble had anything to do with the trouble that caused the first operation. There was diarrhea and high temperature. That occurred ten or twelve weeks after operation and I am quite positive was in no way associated with it.

The others have all done well.

Results. Of my nine cases, in all of which I made posterior gastro-jejunos-tomies, one died within a few hours. Its weight had fallen from 8½ pounds to under 6 pounds. The other babies, with the exception of the one mentioned above, have made good recoveries and have remained well. These results are due to a great extent to the fact that I turn the babies back to the pediatricist for the direction of the feeding subsequent to the operation. (Since the above discussion, I have operated on two more cases. Both babies have recovered from the operation.)

Dr. L. L. McArthur: I have operated on cases for Dr. Walls and I am quite inclined to agree with Dr. Richter that these become surgical cases as soon as one can palpate a definite tumor and make a diagnosis of pyloric obstruction. I have refused to operate on cases which I believed to be purely spasmodic and which gave a history of intermittent vomiting—vomiting for a week and then retaining food. When it vomits persistently the operation should be done; but where it has been patulous for a week at a time I thought it might again relax, so advised against operation until more observation could be made and therapeutic measures tried. In that case the child has lived.

I have felt that in cases in which simple spastic pyloric contraction remained incorrigible to therapeutic relief the Loretta dilatation of the pylorus should be used. Attempts to dilate a thick, muscular pylorus I believe to be untenable.

Occasionally one is deceived in the nature of the vomit in the first week or ten days of a baby's life in which apparently all food taken is regurgitated, in which the bowel fails to move except as meconium, in which no dilatation is evident; the surgeon is called in to interfere because of the impending starvation. I opened such a case a year or so ago with the idea that I should have to make a gastroenterostomy for pyloric obstruction, but found an extremely small stomach, no pyloric tumor and I simply made a fistula through which the child could be fed. Ten days after it died and it was shown by the postmortem that the esophagus of this child terminated at about the thyroid cartilage in a blind cul-de-sac. The distal portion terminated in the trachea low down.

Any effort of vomiting made regurgitation of food into the trachea.

Dr. Young: The fact that Dr. Walls has seen twenty-six cases would lead one to think that these cases are far more common than is generally supposed. I would like to ask him how common they really are.

Dr. Frank X. Walls (closing the discussion): Just how common, relatively speaking, these cases are I cannot say and it would be difficult to determine, but I believe they are far more common than is generally supposed. I have had a case in a child of four months of age. The case was seen in consultation with, I think, five of our leading pediatricists and it was not until the child was four months old that the diagnosis was certain. During all those four months it was sick. You would think (to hear the family tell it now) that it was strange the diagnosis had not been made long ago, but during that time the pain was brought out as the important feature and the vomiting was scarcely mentioned, as the parents thought that every young child vomited more or less. As the case was studied more closely and this condition thought of as a possibility, we appreciated

how it might be and investigation brought out facts that would leave little doubt.

I have, as I said, seen twenty-six cases, sixteen of which were operated on and of these sixteen operated on (some by Dr. Richter, some by Dr. McArthur, some by Dr. Van Hook and some by Dr. Murphy) there were unmistakable evidences of obstruction, dilated stomach and collapsed small bowel. In the cases treated medically some died and some got along fairly well. Some made good recoveries and some are still under observation. Of the sixteen surgically treated three died. These three were all anemic, poorly nourished children and in one of these pictures you can see that the head is not well formed; the bones were soft. Two of the babies Dr. Van Hook operated on were extremely emaciated. One went steadily down from 11 pounds at birth to 8 pounds at the time of operation. Immediately after the operation it again gained in weight.

One thing must be remembered, when this obstruction is cared for surgically, they are given an opportunity to take human milk. The one I mentioned that was operated on at 4 months, had the mother's milk taken away and was fed one thing after another and all the time was losing that most valuable food, the mother's milk. Where we are certain of the diagnosis, no time should be lost. The number of cases is rather large. Some observers have reported eighty or ninety cases out of fairly large clinics.

Regular Meeting, April 26, 1911

The meeting was called to order by the president, Dr. Alex. H. Ferguson.

The President: Before beginning the program of the evening the chair will entertain a motion of congratulation of the Society to Drs. J. B. Murphy and E. Fletcher Ingals upon their recovery from typhoid fever.

Dr. O. Tydings: I will make a motion to the effect that the compliments and congratulations of the Society be sent to Drs. Murphy and Ingals. Unanimously carried.

Dr. Oliver Tydings read a paper on "Limitations of Ophthalmic Practice, Imposed by Constitutional Conditions." Dr. A. Belcham Keyes read a paper on "The Diagnosis and the Behavior of Ovarian Tumors in the Non-Pregnant and Pregnant." Dr. Norval Pierce read a paper on "Remarks on Serous Meningitis in Connection with Ear and Nose Diseases."

DISCUSSION ON THE PAPER OF DR. PIERCE

Dr. Joseph Beck: This subject brought up by Dr. Pierce is of exceeding importance to rhinologists for various reasons, one of them being that many new diagnostic methods have recently been developed by which we are able to make a much clearer and more positive diagnosis and therefore, of course, a better operation.

Those who have heard Dr. Pierce before on this subject recognize the change in his attitude on the question of operating or not operating. However, his reason for this he made clear.

I would take issue on one point—where to remove cerebrospinal fluid. There is practically no danger in lumbar puncture. He mentioned the closing of the wound and sudden death and Quinkle's idea of removing a little at a time. You run a danger, in opening a dura in serous meningitis in infected cavities like the ear or nose. One should go by the condition of the dura.

He mentioned the fact that in these three cases the fluid was dark and noted the suspicious condition of the dura. Anyone would suspect abscesses in that case and should not hesitate to open at the dura.

Dr. Holinger: Dr. Pierce gave neither the symptoms nor the diagnosis or differential diagnosis nor the clinical course, nor the pathology of serous meningitis, but simply announced the fact that serous meningitis occurs and that all three of his patients recovered. I think I know the reason for his doing so. Some time ago I reported before the Laryngological and Otological Society a case of recovery from suppurative meningitis. In his discussion Dr. Pierce maintained that all patients suffering from suppurative meningitis will die, and that

my patient had not a suppurative but a serous meningitis. This I could easily counterprove since I stated that I aspirated pus through a window in the tegmen tympani and a perforation in Shrapnell's membrane into the external meatus. I never doubted the occurrence of serous meningitis; I know it from text books, from literature and from my own experience. A boy aged 8 years had to be operated on on account of mastoiditis after cerebrospinal meningitis. The dura was exposed and showed considerable intracranial pressure. To avoid direct infection I trephined in the temple and discharged clear fluid. The brain bulged and a trocar inserted into the lateral ventricles discharged much clear fluid. For three days two or three large dressings were saturated, when the boy died. I repeat, I never doubted the occurrence of serous meningitis, but while on the whole the prognosis of serous meningitis is better than that of suppurative meningitis, it is just as certain that not all patients suffering from serous meningitis get well, as it is that not all cases of suppurative meningitis make exitus. A number of publications have of late sustained this standpoint.

Now in the cases that Dr. Pierce reported the serous meningitis seemed to be pretty nearly an accidental finding. In none was the diagnosis made *before* the operation which led to its discovery. This is explained by the fact that there are few indicative symptoms which are present in all or even in a large number of cases. The temperature may be high, or subnormal, or normal, the pulse is sometimes low. The most frequent symptoms are headache and stiff neck, but both are found in suppurative as well as in serous meningitis.

It is, however, of the greatest practical importance to remember that lumbar puncture in suspected cases is not dangerous; it will help to clear the diagnosis and often, even in suppurative meningitis, has initiated the recovery; sometimes after repeated applications. It is not in accordance with our present achievements in science to fold our hands in presence of a patient with suppurative meningitis and wait till he dies.

Dr. Oliver Tydings: I hold rather to the opinion of Dr. Holinger in considering the two types of meningitis named, serous and purulent as being different stages of the same disease, just as we have in inflammation involving other serous cavities, first a clear liquid then more and more cloudy and finally purulent—so it is in cases of meningitis.

You are not going to have meningitis of the types mentioned without an etiologic factor and an avenue along which it may travel. The point of entry may be through the nose, ear or orbit. The class of cases cited belong to that larger class which proceed from a suppurative focus and not to that class which prevails at times as an epidemic, nor yet to the tubercular type.

Whether or not it has ever been seriously advanced or surgically considered that choked disk was necessarily a part of meningitis I do not know, but this I do know, we do not get choked disk in all of these cases. Again we see many cases of choked disk not due to meningitis. I have had three in the past three weeks. One of comparatively acuteluet infection of less than a year. Another of the same class infected twenty-five years before, the third of tubercular origin.

We have all had cases of leptomeningitis resulting in brain abscess and in some cases have failed of good results because they were not operated on soon enough.

We have all seen cases where a month or more has been lost before the condition was recognized. Some years ago I operated on a case where the history showed that the man had been mentally unbalanced for a month, yet there was no choked disk but a leptomeningitis, sinus thrombosis and brain abscess. His recovery was very tedious.

Dr. Camp: I wish to ask, why the need of any puncture whatever where the disease is at all acute? Of course if one has tuberculosis or virulent conditions it may be justified, but in the large per cent. of cases it is not originally a pus condition, especially where we have it as in epidemics in meningeal fevers. I have experienced two epidemics of that kind and have never seen any necessity for puncture whatever.

The form of treatment I use is heroic purgative and quinin. Something over 30 cases which I could keep tab on recovered. If the condition is acute at all it will yield to this treatment. Large doses of bromids may also be added with advantage. Whether in children or in adults the results will be the same and the only case I remember losing was one that could not swallow. It died about an hour after I saw it. I would like to know if anyone else has had any experience along this line and if they have not had the same results.

Dr. A. H. Ferguson: I should like to ask a question or two: I had two deaths from streptococcic meningitis following operations on the nose. It came on within 48 hours after operation. I had refused to operate on both. One was operated on by Harvey Cushman and a post-mortem was held. The one on which I refused to operate died and we had a post-mortem. The purulent inflammation was very extensive. Leukocytosis was very marked. I should like to know what (if any) bearing has leukocytosis on serous meningitis. In both cases we had repeated chills and fever with high pyrexia and the temperature came down again. In both cases streptococci were found in the blood.

These are the cases in which I have been refusing to operate on the brain. These cases both came to me within the same year.

If specialists working all the time in conditions of the nose and ear would take cultures of the germs present then they might find it of advantage to treat that condition before doing any denuding operation or opening up fresh foci for infection.

Dr. Norval Pierce (closing): I could easily occupy more time in closing this discussion than was occupied by the paper and the discussion. I am very sorry I have not brought to Dr. Holinger the ability to differentiate between serous and suppurative meningitis. I knew I could not do this—in fact, my paper was for the purpose of pointing out that symptomatically you cannot make the differential diagnosis.

At the expense of opening the old feud I will say: my belief is that a septic meningitis is an entirely different thing from a serous meningitis. A serous is collateral edema. It is produced by toxins without the presence of living microorganisms. Probably the effect is produced on the choroid process and probably upon the endothelium of the arachnoid. In fracture of the rib, Dr. Ferguson, we get no effusion into the pleural space and that is somewhat like the process that goes on in the subdural space in serous meningitis. You may have serous meningitis and some simple acute otitis media in infants where there is no direct connection between the inflammatory nidus and the interior of skull. The theory is that the toxins are absorbed in the subdural space producing an increase in the cerebrospinal fluid.

The prognosis is entirely different between the two, septic and serous meningitis. In my opinion such cases as Dr. Ferguson has reported of general septic meningitis are not going to be benefited by any amount of drainage. It is altogether different with serous. There drainage does all possible good. We can readily understand how septic meningitis produces death aside from the systemic influence. In the serous form of meningitis the symptoms are produced largely by an increase in the cerebrospinal fluid, the arachnoid being the part most affected, together with the ventricles, or the choroid plexus. In septic meningitis it is the pia that is affected as well and as it carries the nutrition of the surface of the brain, sending blood vessels down into the brain, when this is inflamed we must have an encephalitis and it is this encephalitis that proves fatal.

That brings me to the point of leukocytosis, which is much greater in septic than in pure serous meningitis, but in all these cases the primary focus produces the leukocytosis and it usually overclouds as regards diagnostic significance of leukocytosis, the process that is going on in the meninges. For example, suppose you have septic thrombosis of the sigmoid sinus and serous meningitis: here we have high leukocytosis in the presence of serous meningitis, the leukocytosis is produced by the primary inflammatory process, the serous meningitis being secondary thereto.

Regular Meeting, May 3, 1911

The president not being able to attend, the meeting was called to order by the secretary, Dr. George F. Suker, who introduced Dr. Liston H. Montgomery as presiding officer pro tem. Dr. David Lieberthal's paper, "Notes on the Treatment of Certain Gonorrheal and Skin Affections by Vaccines," was read by title. Dr. Frederick Mueller read a paper on "The Treatment of the Rigid Flat-Foot" (with demonstration of plaster models). Dr. Alex. C. Wiener read a paper on "The Use of Fibrolysin in Perigastric Adhesions."

DISCUSSION ON THE PAPER OF DR. MUELLER

Dr. Fenton B. Turck: I would like to ask the essayist what connection there is between this flat-foot and Stiller's disease known as *asthenia universalis*. A general condition, of which the flat-foot is only a part. If it is an expression of a general condition, then the question would be how may we expect a purely local treatment to make for permanent results. Of course flat-foot might now and then be produced by trauma resulting from long-continued standing, but usually I believe it indicates a general condition. While the paper is very valuable and I believe more exhaustive than what we have usually had presented on this subject, still I believe it is incomplete in not having mentioned at all this phase of the subject.

Dr. Frederick Mueller (closing discussion): If this subject were approached in the general, comprehensive way suggested by the query of Dr. Turck not only this entire evening but all day to-morrow would be needed to cover it. I purposely selected the type to be considered in this discussion with great care. I confined all my remarks to the rigid flat-foot. Even this one phase of the general condition known as "flat foot" is very large and I went into details only on one point.

When I started with these investigations the results I attained in contracted and rigid flat-foot were so gratifying that I saw it was just the thing for this common everyday flat-foot which we see so many attempting to treat all in one group.

I tried the same thing in plastic flat-foot and in some cases where we had flexible flat-foot combined with general weakness and under-development and I must say that in most of these cases it was an absolute failure.

Naturally the first cases treated in this way did not come out very well. I tried a few more, but in the flexible flat-foot it remained a failure, but in the rigid flat-foot my results were uniformly good. I explain this by the fact that rigid and flexible flat-foot are entirely different conditions. In a rigid flat-foot you have a shortening of all the ligaments. You have anatomic change of the tarsus and metatarsus. In so-called "flat-foot" you do not have these changes, consequently, if you redress rigid flat-foot you cause traumatism. It causes a reaction and this reaction in such a case is, in my opinion at least, of the greatest benefit in maintaining permanent results.

In flexible flat-foot we also get a reaction, but it is entirely different.

Take for instance a normal joint—let us say the knee, which has become ankylosed by rheumatism: if we subject this joint to redressment we find that reaction is created, but it is a different type of reaction. In the healthy joint, where we have mobility we find more massive support. The exudation widens the ligaments and by and by they stretch, but they require a long time to regain their former tone.

In the other case to which I referred in the ankylosed knee-joint we get reaction, but it is entirely different. We do not see the enormous amount of exudation.

In this way I am inclined to explain that if we try this treatment in every case of so-called flat-foot we are bound to meet some failures because of the manipulation and maneuvering bringing about exudation to such an extent that we get over-stretching, whereas in the cases of rigid flat-foot where we have

shortening of the ligaments, a tendency of the joint to dryness, we need just this stretching and this exudation.

In this way only can I answer the question of Dr. Turck.

DISCUSSION ON THE PAPER OF DR. WIENER

Dr. Krause: I cannot say much from the side of general surgery, but in genito-urinary work I cannot agree on the subject of urethral strictures. I have a series of 12 cases in which fibrolysin was used in the urethral region, each case receiving from four to ten injections. Two were secondary strictures following laparotomies and in neither one could we pass a sound. In ten out of the twelve cases we met with absolutely no results. In the other, very partial success.

Dr. Fenton B. Turck: We have used fibrolysin in stricture of the esophagus due to scar from carbolic acid and other agents in children and we have had opportunities in some cases of directly observing results. It seemed to be negative, we could not even get dilation. One patient was a little boy who had had an operation and retrograde dilation was obtained and we hoped to have improvement but the results with fibrolysin were negative. It may be that there is some effect that is not always apparent in extensive scar tissue that follows severe traumatism.

Adhesions may form and the stomach hypertrophy to accommodate itself to them, and the patient remain apparently well, then, if operated upon for some other condition the adhesions are discovered, unless bound down with rigid adhesion the stomach will usually accommodate itself by hypertrophy. Unless you have the pyloric orifice absolutely bound down with adhesions you will find physiologic conditions going on the same as normal. Nearly every operation in this region would be productive of bad results were this not so.

I have seen adhesions from carcinoma, adhesions to the parietal wall and liver in a patient opened up, but having absolutely no symptoms into a normal stomach apparently empty. No trouble occurs as a rule unless there is retention. I could not say from this one case presented that fibrolysin was responsible for the cure, yet I must congratulate the doctor and the patient on the results attained.

Dr. Wait: I assume that the action of fibrolysin is entirely due to the thiosinamin in it. It is a mixture of sodium salicylate and thiosinamin. I have used this latter in scar tissue, but I did not use it quite in this form. I dissolved it in tincture of benzoin and then covered it over with collodion. In scars of the face you will find that the scar becomes red and sore for a day or two, but after five days or so you will have good results.

I do not know why we should use this preparation that Merck puts up. If you want to use thiosinamin, use in with sodium salicylate, preparing your solution as you need it with distilled water, and then you do not run the danger of deterioration.

Dr. Alex. C. Wiener (closing discussion): To answer the last question first: it certainly can be done that way. The use of thiosinamin hypodermically is painful, and really thiosinamin alone does not have exactly the same effect, although the action of fibrolysin depends on the thiosinamin it contains. Each vial contains what would equal 2 decigrams of thiosinamin.

To answer the remarks of Dr. Krause: I have not had any experience with urethral stricture. I have not used the preparation in stricture of any kind. In the case in question it was used after the operation. With these formidable adhesions there was no promise of improvement. They were all grown together in one mass, the nucleus of which was the gall-bladder, and morphin had to be used. There was no indication of such spontaneous relief as Dr. Turck has suggested.

While this is but one case and does not, therefore, prove very much, or form the basis of anything like a definite conclusion, as the reports are so very meager as yet, each case should be reported and studied in detail. Were I in your place

I should make the very same objection, but I thought it would be of interest to have this case brought up and look forward to the time when the literature of this subject will be complete.

CHICAGO MEDICAL AND CHICAGO SURGICAL SOCIETIES

Joint Meeting, May 10, 1911

The President of the Chicago Medical Society, Dr. Alex. H. Ferguson, called the meeting to order and introduced Dr. Jacob Frank, President of the Chicago Surgical Society, as chairman for the evening. Dr. L. A. Greensfelder exhibited "A Specimen of the Submucoid Lipoma of the Transverse Colon." Dr. Alex. H. Ferguson read a paper on "Raynaud's Disease: Malum Perforans, with Report of a Case." Then followed a "Symposium on the Treatment of Fractures."

DISCUSSION ON THE PAPER OF DR. L. A. GREENSFELDER

Dr. A. J. Ochsner: The condition is exceedingly rare. I have personally seen but one case, and I believe that the diagnosis is made entirely by accident when made before the abdomen is opened. Of course, having seen a case, where there is intestinal obstruction, one includes this possibility among the conditions which may cause the obstruction, so that in that way a diagnosis before operation may be made, but a differential diagnosis is entirely impossible.

In the case in which I found this tumor there was marked intussusception, and the operation was performed for intestinal obstruction. After the intussusception was reduced the tumor could be pushed out through an incision in the wall. The condition is interesting, and although rare, should be thought of when considering cases of intestinal obstruction.

DISCUSSION ON THE PAPER OF DR. ALEX. HUGH FERGUSON

Dr. L. Harrison Mettler: I had an opportunity of seeing this case, through the kindness of Dr. Ferguson. He has given you the history of it in such detail that it will scarcely be necessary for me to add anything further in that respect.

The sensation in all of its three forms of touch, pain and temperature was diminished in both limbs, markedly so in the left. There was no anesthesia, but hypesthesia. Both the deep and superficial reflexes were decreased. There was slight wasting of both limbs and malformation of the left. The appearance of the latter was typical of Raynaud's syndrome.

The history of this case (I am quoting from memory) revealed a strong neuropathic tendency in the family. The grandfather, moreover, had suffered from some traumatism of one limb which they said would "never heal up." Of this I could not get a satisfactorily clear account. There was a pronounced neuropathic element in the immediate parentage of the girl.

The patient was apparently well born, and so far as her parents knew, was healthy until she was 3 years old. It was then noticed that she walked with a peculiar movement which they described as a "slight dragging." About this time the sores which Dr. Ferguson described began to appear. I can add nothing to the rest of the history as given by the essayist.

One point I would like to emphasize, namely, that in any discussion of the vasomotor and trophic neuroses at the present day one enters a most uncertain field.

Diseases and syndromes have gotten occasionally inextricably mixed up, because the pathology on which these syndromes and nosologic distinctions have been based is so little known. The vasomotor and trophic apparatus includes certain elements and tracts in the entire cerebrospinal axis with the sympathetic system. When we recall that in the middle horn of the spinal cord, including the vesicular column of Clark, in the so-called "diabetic center" of the medulla, in the basal ganglia and even in the cerebral cortex (as note the blushing from psychic shock) are elements which in conjunction with the sympathetic system, more or less directly or indirectly influence the vascular tone and general elemental nutrition of the body, it will not cause any surprise to discover that

vasomotor and trophic manifestations accompany so many cerebrospinal organic diseases and that behind the vasomotor and trophic neuroses, like erythromelalgia, scleroderma, symmetrical gangrene, etc., there lurk many different types of disease processes. In other words we are learning that these so-called vasomotor and trophic neuroses are not so much diseases as they are in many instances mere clinical syndromes, indicating in themselves nothing more than a functional localization of the disease process. It is of less importance oftentimes to diagnose a vasomotor neurosis than it is to discover the well recognized functional or organic trouble of which the vasomotor neurosis is but one manifestation. Just as we are now losing such clinical syndromes as Landry's paralysis, superior and inferior polioencephalitis and so forth in the broader pathology of acute poliomyelitis of specific infection, so we are on the point of losing the vasomotor and trophic neuroses in some instances at least, as forms of disease and recognizing them merely as side issues or added symptoms of well defined lesions of the cerebrospinal sympathetic system. We have heretofore been too narrow in our conceptions of these neuroses.

In regard to the present case we call it Raynaud's disease with this broader conception of the vasomotor neuroses in mind. The symptomatology of the case was not wholly typical of symmetrical gangrene; but Raynaud's disease is far from being always symmetrical and the use of this adjective in its title nowadays is quite an error. The classical picture of the bilateral pallor with pain, followed by the appearance of a line of demarcation with spontaneous gangrene was not here clearly portrayed. Nor were the signs such as to afford a clear diagnosis of any well recognized lesion of the spinal cord though suspicion pointed strongly to such. The case was apparently congenital, somewhat bilateral, with other signs of involvement of the central nervous system with the objective manifestations in the way of vasomotor trophism to bring the condition under the head of the vasomotor neuroses, more particularly Raynaud's type.

Dr. Carl Beck: In the last number of the *International Clinic* I published a case of Raynaud's disease that happened to come under my care at the County Hospital. It was a colored man who had all the symptoms of Raynaud's disease that have been discussed here to-night. The reason I mention this case is because I think that Dr. Mettler's remark that the endarteritis might be secondary and not a primary cause, seemed to be borne out by this case. This case had a history of about nine years. The patient had gradual gangrene of the toes, shriveling up of both feet similar to this case only it was a more extensive gangrene, probably up to the middle foot. The limbs were thin and the skin dry, showing the typical symptoms. I decided to try an experiment with a suture of the blood vessels uniting the femoral artery with the femoral vein. There was immediate demarcation, which had not taken place in eight years. I thought this a clear demonstration that it was due to the endarteritis, that immediate joining to the veins, had brought about a good supply of blood. After a few weeks, however, the other limb began to demarcate and the whole theory was overthrown.

We made a double amputation after that and I observed a peculiar symptom. I watched both interns carefully while they performed the operation on both sides at the same time. On one side there was a decidedly large spurt of blood, on the other slight oozing (parenchymatous). Both specimens showed endarteritis.

Chairman: We have with us this evening Dr. Eaves of London whom I will ask to take part in this discussion, if he will, also any other visitors who may be present.

TREATMENT OF FRACTURES (SYMPOSIUM)

1. Treatment of Fractures into the Joints—D. W. Graham.
2. Treatment of Compound Fractures¹—Carl Beck.

* For abstract of paper see page 123.

3. Treatment of Ununited Fractures—N. M. Percy.
4. Treatment of Fractures of the Long Bones—Wm. Hessert.
5. Treatment of Fractures of the Vertebrae and Ribs—Lawrence Ryan.
6. Treatment of Fractures of the Pelvis—D. A. K. Steele.

DISCUSSION

Dr. Eaves (London): I have listened with great interest to this discussion of this most interesting subject. First of all I wish to express my satisfaction with the way Dr. Percy told of his use of the Lane plates.

I was very sorry to hear such a confounding discussion as Dr. Hessert's. Such cases as he mentions we seldom find. The only cases in which there is delay is in the very bad fractures. Plates are not removed except in fracture of the tibia where we have to put it on the subcutaneous aspect. The only cases in which we have difficulty are cases of compound fractures. In these we have found it best to follow out the routine described so well by Dr. Beck, which was to wait until the limb got into actual aseptic condition, then resort to the Lane screws. In some cases we have tried (and got excellent results) using the longest screws we could find and screwing it far away from the seat of the fracture.

It is useless for me to say much upon this subject. As you are all well aware treatment of fractures cannot be taken up by those not acquainted with the technic. Most important is the aseptic condition. If you are aseptic to the very finest degree in general operations, you have to be doubly aseptic here—you cannot be too aseptic. We look upon Dr. Lane as being the last word in asepsis. Everything is done. First of all the leg is shaved through all the soaps to get off as much thick epidermis as possible. Then he soaks it. If it is tibia the limb is soaked from the toes to the upper third of the thigh. That is left on until the time for the operation. Then it is carefully taken off and iodine put on. He always makes a good long incision to give plenty of room. Strictly sterile pads should be used so that no infection can take place.

Then as regards treatment of your instruments and your hands: In all your treatment and in picking up of instruments your hands should not come within eight inches of the wound. Nothing should be picked up by hand. Each swab should be picked up at the time it is to be used and then, after using, thrown away. In femur operations where you have to use catgut it should not be touched by your hand. An instrument that is once used should be boiled. Nothing in the matter of asepsis should be neglected and this is the whole secret of having no trouble. Keep your hands off your instruments and out of the wound.

Dr. William Fuller: I desire to add a word to what Dr. Beck has said about the treatment of compound fractures. I am not so afraid to wash these compound fractures, although what Dr. Beck has said will be sufficient to cleanse many of them.

The wound is made very clean first and the bones, if protruding, are thoroughly cleaned, before being drawn within the wound. A compress from bichloride solution is firmly held to this wound while the remainder of the limb is being subjected to a thorough scrubbing. The whole leg is then well coated with iodine including the wound and wound margins. The limb is now slit up if needed at several points above, below and around the fracture, to release the tension and provide for subsequent drainage.

The limb is now (wholly ignoring the fracture) swathed in a large moist antiseptic dressing and placed between well fitting splints which are fixed in place, not by the turn of bandages, but by bandage strips two feet long tied at intervals of four or five inches around the splints. This enables the immediate tightening or loosening the splints at a moment's notice, at the place desired; this method is used by little manipulation of the limb, is a light dressing and has other advantages. The next step, the most important of all in treating fractures of any description, or infections without fractures, is the extreme elevation of the limb. This elevation is not accomplished by placing the limb on

pillows but by suspending it on a frame which will hold the limb at a right angle or practically that, to the plane of the bed. The advantages of this one step cannot be made plain by words but by trial only.

In accordance with this method I have for years treated compound fractures and have under my care now one of the most serious compound comminuted fractures of the tibia and fibula I have ever seen. I have here two *x*-ray pictures showing the condition as described. This man, aged fifty years, received this injury fourteen days ago and with the treatment as described, his condition has remained normal except two days when his temperature reached 100 F., due to allowing his leg to rest upon the bed—without elevation.

My intentions were to operate upon this patient to-morrow, but hearing the advice of Dr. Hessert I hesitate somewhat about it. If this fracture, the ugly deformity of which is shown so well by the *x*-ray, can be properly cared for by any means aside from operative ones, then I shall remove my hat to the surgeon that can do it and turn the case over to him.

I might add that since this discussion this case has been operated on, showing a condition not possible of correction by any manipulation of a non-operative character.

Dr. M. L. Harris: Just a few general observations: In the first place we are considerably aided nowadays by the *x*-ray, thus bringing the fracture in a sense to the patient's eye, so that he can see that his bones are or are not in apposition. This one thing more than all else has made the public demand better cosmetic results. I believe that every fracture of the long bones, at least, which cannot be brought into practically perfect alignment should be operated upon unless there are contra-indications of some other sort.

Fractures should not be operated upon by everyone. A laparotomy is a simple matter compared to the treatment of a fracture. The care necessary to open up a fracture is infinitely greater than it is to do an ordinary laparotomy. The peritoneum is good and kind and will take care of an amount of infection which the tissue about a fracture will not do.

I agree with Dr. Hessert when he says that we should not attempt to operate upon a fracture unless we have proper instruments. To attempt to use your hand (even gloved) is almost certain to lead to disaster. Unless you have proper instruments so that you do not need to introduce the gloved hand into the wound do not attempt to do open operations on fractures. They are absolutely essential to good aseptic results.

Dr. Magnussen: There has been a good deal of discussion about handling fractures with the proper instruments. While I was doing some work at the University of Pennsylvania on lengthening long bones, we had to devise some method of stretching the soft parts to bring the bone down where we wanted it. We used weights and clamped them onto the angle of the bone in this particular operation and found that the steady pull we got from attaching weights would accomplish the necessary stretching a good deal quicker than the pull we could get by muscular traction.

Some time ago Dr. Plummer had an old compound fracture to treat where the ends were jammed up into the muscles from the bottom and down from the top. It seemed impossible to get them down and get the ends into apposition and I had this apparatus which I shall demonstrate, fixed up for him. This is simply a clamp, as you see, which attaches to the end of the operating table with a pulley at the other end. This pulley is upheld by a standard. We now make a loop of ticking and fasten it above the knee, tie a window cord to this loop, run the cord over the pulley and hang weights amounting to about 75 pounds on the rope. In this case we brought the fragments of bone end to end in fifteen minutes without putting an instrument in the wound and without any muscular effort.

Chairman: Dr. Carl Wagner has brought with him from Belgium some plates for use in ununited fractures which I have asked him to demonstrate and pass about. (Demonstration of the outfit.)

D. W. Graham (closing): One word regarding nailing of Colles' and Potts' fractures: It is well known that these two fractures are very easily kept in place once they are properly reduced. Therefore I think the nails which Dr. Ferguson used were wasted.

In regard to the treatment of the shaft of the long bones: In some cases I would prefer an ivory dowel placed in the medulary cavity of the two fragments rather than the plate. My experience proves that when it can be introduced easily it is far better and simpler than the plate.

Carl Beck (closing): I was very glad to hear Dr. Eaves bear me out in my remarks, which refute the statement of Dr. Fuller. The old Koenig method has been universally used and I believe we will all agree that the less we do the better for the patient.

William Hessert (closing): Reliable statistics on the question as to the frequency with which plates must be removed are not yet available. In my own experience, almost half of the cases developed a sinus and came back to have the plate removed. In none of my cases has there been an infection, the only case which did not progress smoothly was one operated on at the County Hospital in which the cast was applied too tightly, causing superficial necrosis and delaying healing for a long time. The drilling of holes in bones and insertion of screws is followed by a certain degree of local necrosis or rarefying osteitis. After union of the bones has taken place, the screws and plates will generally be found to be loose, and like any foreign body, they will cause irritation and demand removal. Whether after all a low grade of infection is at the bottom of all this is the question.

I would not operate on Dr. Fuller's case, and if he will send him to the Alexian Brothers' Hospital I shall be glad to take care of him without operation. I would not operate for the reason that there is too much comminution. The fragments are too small and numerous to hold the screws well. There is very likely to be necrosis later requiring another operation. Again there has not yet been an attempt made by bloodless methods of extension, so I would do this first and then take an x-ray picture to show the result.

Dr. A. J. Ochsner (in reply to the question whether or not he would operate in the case in question): I believe that in a case of this kind the best results you can get would be by non-operative treatment.

TREATMENT OF COMPOUND FRACTURES*

CARL BECK, M.D.

CHICAGO

(Abstract.)

The treatment differs materially from the treatment of other fractures, because they are exposed to complications to which the others are not.

Each case must be treated individually. In dealing with the individual case the first in aim is to decide whether a fractured limb can be saved without sacrificing the life of the patient; second, whether the active treatment is preferable to the expectant treatment. The best rule for the surgeon is to regard every case as contaminated unless he is positive that such is not the case. The main danger is in the infection. Therefore it will be necessary to remove the patient at first into a place where infection can be avoided. Since the hospital is better fitted for such a service than the private home, compound fractures ought to be brought into a hospital if possible. A competent surgeon should take care of it. It is easier to perform on a healthy person with healthy skin any kind of operation than it is to treat aseptically a compound fracture. A great danger is in the so-called polypragmasia, that means in plain English doing too much. The surgical busybody, with his brush and soap in his hands, has killed more patients with compound fractures than most of the dirt brought into them during the injury.

Let me describe how it should not be done. Let us take an example of a compound fracture of the femur, in which the outer parts are injured severely

and in which the bone protrudes through the skin. Mud and dirt from the street is sticking to the injured part. The first thing to do is to get a basin of water and soap, lather those parts and scrub them with a brush until they appear to the layman or the surgical tyro clean. During this manipulation most of the damage has been done. The parts which have been only apparently dirty by clinging of particles of mud to them are now thoroughly rubbed in with the micro-organism, and what is more they have been irreparably damaged. No amount of bichlorid or carbolic acid will wash off those micro-organisms which have been rubbed into the parts. No matter how much iodoform gauze or other kind of gauze has been placed on top of the wound, and how much cotton and how carefully it has been wrapped up, fever and the other symptoms of sepsis will soon appear and scrubbing has been abandoned by most.

The modern method of treatment is the same which we use now universally in preparation of our patients. Sealing of the parts which are exposed to the contamination after removing mechanically and carefully from the surface of the damaged part all the particles which can easily mechanically be removed, we paint the skin and the damaged part with iodine, according to the method of Grossich. We remove all those parts which have been so heavily damaged that in all probability they will not recover life by their own circulation or by adhering to parts which are still living. We open all the recesses which may harbor infection, drain them and then wait for Nature to throw up a wall of defense. The first indication, therefore, is to keep out all infection if possible. Of course all other principles of common modern surgery, like the exact hemostasis, have to be observed.

To bring about the functional and cosmetic result as we would like to have it in an uncomplicated fracture will be of secondary consideration.

Only a second consideration is the restoration of function.

After the dangers of immediate infection and sepsis have passed the compound fractures will have to be treated like those uncomplicated with a view of obtaining the best possible function and the least deformity.

Any of these methods which have been described and which are discussed to-night much more in detail by others will be applicable. Wiring, the use of Lane plates, ivory pegs and fresh bone taken from other parts of the body and used in Germany, an operation called Bolzen-operation and other methods.

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting of March 20, 1911

Dr. H. W. Woodruff, President, in the Chair.

SOME EXPERIENCES OF TRACHOMA IN THE ORIENT

Dr. Casey A. Wood delivered a highly instructive and entertaining address, illustrated by lantern slides, on this subject. His remarks treated mainly of the sociologic aspects of trachoma with reference to the alleviation and possible eradication of the disease.

A CASE OF IRITIS TREATED WITH SALVARSAN

Dr. Willis O. Nance presented a man of 20 who developed an acute iritis ten days before admission to the Eye and Ear Infirmary, and who gave a specific history and exhibited all the characteristic signs of syphilis. The infection occurred three months ago. On admission, the eye presented all the typical symptoms of a deep iritis. There was a pronounced ciliary injection and the pupil on dilatation became decidedly irregular. No constitutional treatment had been employed. The patient was a robust young man free from nephritic or cardiac disease. Under Dr. Nance's direction, Dr. C. E. Smith, house surgeon at the Infirmary, injected 0.6 gm. salvarsan deeply into the gluteal region employing Wechselmann's method. The patient was kept in bed three days. There were no untoward symptoms. Twenty-four hours after the injection, the eye was markedly clearer and a mucous patch in the mouth had entirely cleared. There was a diminution in the adenopathy. Forty-eight hours after injection,

the eye appeared normal except for the irregular pupil. A course of hydrargyrum is to be instituted in the case at once. Dr. Nance considered the rapid clearing of the eye, the healing of the mucous patch and the subsidence of the adenopathy as little short of magical.

Dr. Cassius D. Wescott said that so far as he knew only one patient of his had been subjected to treatment with salvarsan. The patient was a man who gave a very indefinite history of syphilitic infection, although a Wassermann was positive. The only ocular lesion was a paralysis of one external rectus. A diagnosis of cerebral syphilis was made and he was given mercury for many weeks without effect and finally one injection of salvarsan with similar result. The remedy was given without Dr. Wescott's consent. Dr. Wescott is of the opinion that we should be exceedingly cautious in recommending salvarsan, especially without the advice of an expert syphilographer.

Dr. Casey Wood believed that while the use of salvarsan was especially valuable in the more recent lesions of the ocular apparatus, it still remains to be decided first, whether "606" is of any considerable use in affections of the oculonervous apparatus, and second, whether in its employment in such cases the danger of optic neuritis and atrophy has been exaggerated or not.

Dr. H. W. Woodruff has had no personal experience with "606," but as there have been cases which terminated fatally following its use, he made the suggestion that unless the case was one which required an immediate effect that it might be better to give smaller doses and not subject the patient to the danger of sudden death.

Dr. Nance, in closing, said that naturally a compound, 30 per cent. of which is arsenic, must not be used carelessly or with impunity, nor should it be employed to the exclusion of the classical mercury and iodid regimen. The rapid and striking results in the case reported were considered by the speaker as of more than passing interest.

A CASE OF PARINAUD'S CONJUNCTIVITIS

Dr. Nance also presented a case of this rare disease. The patient was a girl aged 8 years, who presented the typical appearance of Parinaud's disease as described in the latest edition of Fuchs. Six weeks ago, the mother noticed a swelling back of and below the right angle of the inferior maxilla. The right eye a few days later became inflamed. The upper lid is swollen and edematous. There are many areas of granulation tissue in and near the fornix. Near the lid margin are two superficial gray-coated ulcers, and in the outer half is a triangular area of diffuse ulceration about 7 by 5 mm. On the lower lid are three superficial gray-coated ulcers near the margin. On the limbus to the nasal side there is an oval nodule $2\frac{1}{2}$ by $2\frac{1}{2}$ mm. The preauricular gland is larger than a good-sized almond and the parotid gland is enlarged. The child lives in a flat and has not come into contact with any animal. The personal and family histories are negative.

Dr. W. G. Reeder has seen two cases of Parinaud's conjunctivitis. One was in the practice of the late Dr. Hotz, the other was under the care of Dr. F. I. Brown. Both cases were unilateral and occurred in little girls. Recovery resulted in one of the cases which remained under observation, after three months.

SUCCESSFUL REMOVAL OF STEEL ENCAPSULATED IN THE CILIARY BODY

Dr. Robert von der Heydt presented a man aged 44 years, whose left eye had been injured by a piece of steel. Several weeks after injury, a skiagram showed a piece of steel to be present. The position was indicated as being on the temporal side of the corneal border, while it was later found to be exactly below, where a scleral response to the magnet was elicited. After an hour's effort to draw the steel back into the anterior chamber, without result, attempt was made to move it back toward the vitreous. It was impossible to dislodge the steel body, which seemed well encapsulated and just under sclera, three

millimeters below corneal border. A small incision was then made, as in cyclodialysis, at a point judged to be the posterior edge of steel. While always responding to current, it resisted removal and it was necessary to enter between it and sclera with a spatula, as used by Heine in cyclodialysis. After a total of two and a quarter hours' effort, its removal was finally accomplished through the small incision. In its exit it drew down the root of iris toward wound. The wound was cauterized, conjunctiva sutured and eserine instilled. Vision of 20/40 was obtained notwithstanding there was a corneal nebula and excentrically drawn pupil.

Dr. Wood said that it is well in cases where large and medium-sized pieces of steel have been removed from the neighborhood of the ciliary body to defer a definite prognosis until a year after the removal of the foreign body. It nearly always happens that septic material is carried into the interior of the eye which even after months may be responsible for a more or less distinctive uveitis.

Dr. Wescott congratulated Dr. von der Heydt upon the brilliant result which he obtained in this case. It illustrates the undesirability of depending upon the patients' statement that there can be no foreign body in the eye after the accident. It is always best to have a radiogram taken at once in all cases where a foreign body may be present in order that it may be removed at once if one is found. The longer we wait, the greater the difficulty and danger of the operation. He believed it is always wise to select the scleral route for the removal of a large foreign body behind a lens that has not been injured.

AN UNUSUAL CASE OF SUPERFICIAL KERATITIS

Dr. Major H. Worthington presented a man, aged 52 years, laborer, whom he first saw at the Eye and Ear Infirmary on the service of Dr. Willis O. Nance in November, 1910. He had a superficial keratitis, and the usual subjective symptoms. The ulceration stained but lightly with fluorescein, and had the appearance of flakes of mucus attached to the central and upper parts of cornea, as though a brush had been drawn across the cornea from above downward, leaving a ragged surface. He was put on the routine treatment for corneal ulcer, i. e., atropin, heat, argyrol and salicylates internally. In the course of a week or ten days' treatment, the cornea became as clear as before and all symptoms subsided. The first week in February, he suffered another attack of this condition in the same eye, which being more severe, he was put in the hospital for treatment and observation. The same picture presented as before, except that the ulceration stained more than previously. In five days, the eye was much improved, redness gone, cornea clear except for a slight macula remaining. He was discharged from the hospital after one week's treatment much improved. Later he came to the clinic with the third attack of this condition in the same eye, with appearance of the eye the same as before. At present the cornea is clear and the symptoms have subsided; there is nothing to be seen but two punctate scars on the cornea. Dr. Herbert Walker reports from the laboratory that the smear made shows xerosis bacillus; the culture has not yet been reported on. Fuchs describes a form of keratitis, in which the epithelial layer alone is affected; fine filaments are formed which adhere at one end to the cornea and the other end, swollen and club-shaped, hangs down.

DETACHMENT OF CHOROIDIA FOLLOWING CATARACT EXTRACTION

Dr. E. V. L. Brown exhibited a man whose lens had been removed within the capsule (by accident) with the loss of considerable fluid vitreous thirteen days ago. The wound closed promptly and the anterior chamber was of nearly normal depth the day after the operation. Fresh blood in the pupil area obscured a view for over a week since which time, the chamber has gradually decreased in depth until it is now about one-half that of the other eye. One finds the wound closed and the tension below normal. Focal light shows four smooth sail-like bulgings of the retina and choroidia towards the nasal center of the cavum oculi. The temporal and nasal detachments almost touch each other and leave only a vertical slit between them—above and below another knuckle

of the centrally bulged tunic is seen. The areas of detachment correspond to the portions of the choroidia between the four vena vorticosae. The anterior third of the detached areas is brown and looks like the surface of a hazel-nut, from which the shell has been removed. The back two-thirds is covered over by a thin whitish filmy membrane corresponding to the position of the retina and through which the darker reflex of the choroidia shimmers. The ora serrata is very clearly seen. A red reflex is to be had above only and perception and projection of light, which were normal before the operation, are now only present below. Vision before the operation was 5/200.

Dr. Wescott said it had been his practice to disturb the eye as little as possible during the first two days, and he has never thoroughly examined an eye with the ophthalmoscope during the first week after cataract extraction. In at least two instances which he was able to recall, he had seen the anterior chamber behave as Dr. Brown described when the wound seemed perfectly closed, and it is possible that the choroid was detached in these cases, but he refrained from sufficient examination to disclose the fact.

If, as Dr. Brown tells us, the choroid may reattach spontaneously in a few days, it is quite possible that he may have had other cases.

Dr. W. A. Fisher does not see such cases because he always makes a preliminary iridectomy and does not see any reason for making any examination of the eye the next day after the operation. He does not see where the patient would be benefited by an examination of the eye the next morning after the operation, but a great deal of damage could be produced by simply opening the eyes at that time. If a simple operation is performed, or an iridectomy is made at the time of the operation, there is some excuse for looking at the eye the next morning after the operation, but only to see if there is a prolapse of the iris. If a preliminary iridectomy is made with a cataract operation four weeks later, he sees no excuse for looking at the eye for several days.

A CASE OF PULSATING EXOPHTHALMUS

Dr. C. P. Schenck presented a patient from the service of Dr. W. H. Wilder at the Eye and Ear Infirmary. He had been struck on the back of the head about ten months ago causing a depression of the bone. This had been raised and silver plate introduced at the site of the injury in the left parieto-occipital region. About three months later, patient was again struck on the back of the head, rendering him unconscious. After an interval of ten weeks, the right eye began to protrude, followed in three weeks by pain in the eye and a watery discharge. Patient entered Infirmary four months ago. The right eye protruded more than one-half its diameter from the orbit, was immobile, divergent, pupil dilated and fixed, conjunctival and ciliary injection, marked chemosis, inability to open lids, tension slightly plus; complains of pain in right side of head. Vision 20/40. Hearing normal; no facial palsy. Complains of noises continuously in right side of head. A high-pitched bruit can be distinctly heard all over patient's head synchronous with heart beat. Fundus normal except for marked distention of retina vessels. Bruit and pain disappears by compression of right common carotid artery upon transverse process of sixth cervical vertebra.

One month after admission, the common carotid artery was ligated. The bruit was not present at completion of operation. Ten days later, the exophthalmus was reduced to one-fourth the diameter of the globe and there was a slight recovery from the third nerve paralysis. There was no bruit. Three weeks after ligation, the iris reacted to accommodation, but not to light. Six weeks later, patient complained of hearing hissing noises in head, but these are not perceptible to the ear of the examiner. A month later a bruit on the right side of the head synchronous with the heart beat could readily be heard with the stethoscope. At time of presentation there is still a slight degree of exophthalmus. The power of the muscles supplied by the third nerve is largely restored.

Dr. Dodd: At the same time this man was in the Infirmary, I had a case giving a similar history. My patient was held up and slugged, rendering him unconscious for some time. This was followed the next day by a facial paralysis.

He went to the Cook County Hospital, which he left in a few days as his condition did not improve. After staying at home about a month, he came to the infirmary with a panophthalmitis of the left eye, great proptosis, and swelling about the eye.

Not being able to get a good history on account of the interpreter, I supposed the injury was to the eye ball, and that the proptosis was due to the infection. I enucleated the eye but was unable to get the swelling of the conjunctiva to subside for a long time as it was pushed out between the lids. After getting him in fair condition, he went home, but returned in about two weeks with congestion and secretion of the right eye. The secretion subsided under treatment, but the congestion of the eye ball grew worse, and on examination I found the retinal vessels also very greatly engorged and tortuous. He complained of severe headache, and on listening I could hear a distinct bruit over the most of the head. By sending for a good interpreter, I then learned that the left eye had become proptosed in the same manner and that the infection producing the panophthalmitis was caused by the exposure of the cornea. I had Dr. Halsted operate on him and he made a complete recovery. The doctor later did an anastomosis of the nerves to cure his facial paralysis.

Dr. C. E. Smith: At the time of ligation of right common carotid artery by Dr. Bevan, the question was asked, "Why not ligate the right internal carotid artery *only*, since it is only this artery which is involved?" The reply was that such a procedure would cause too great an anemia of the brain, with danger of necrosis following. The reason for this is that following ligation of the common carotid artery, there is a small amount of blood which enters the internal carotid artery flowing back from the external carotid artery which has an extensive anastomosis with its fellow of the opposite side. Later on, if pulsating exophthalmus recurs, due to extensive compensatory circulation being established through the old aneurysmal sac, the internal carotid artery may be ligated with less danger because along with this compensatory circulation through the internal carotid artery, there will also have been established compensatory circulation between other intracranial arteries. Dr. Wilder expects to have the right internal carotid artery ligated in this case as the next step in the treatment.

WILLIS O. NANCE, Secretary.

LAKE COUNTY

The meeting of the Lake County Medical Society was held in Dr. Taylor's office at Libertyville, Illinois, May 23, 1911, following an enjoyable feed which was preceded by billiards and bowling for a couple of hours.

The secretary's report was read and approved. The report of the delegate to the State Medical Society at Aurora was read. The delegate being unable to take in all the sessions asked the other representatives of the society who attended the meeting to report on some of them. Therefore, the report was completed by Drs. W. C. Bouton and Martin E. Fuller.

Then we heard the report of the committee on inspection of the Poor Farm. They reported that they might sum up the report with two letters, "O. K.," that they found everything neat and tidy and did not see how conditions could be improved. The sanitary condition was good. The patients were contented and in all nothing could be criticised.

Unfinished business brought the report of the entertainment committee. Dr. Daniels, the chairman, being absent the report was given by Dr. Tombaugh, who stated that they had partially completed their plans for the next meeting at which time the society would entertain the Racine and Kenosha medical men. Place chosen for the next meeting was at the Parish House, Waukegan. The banquet to be served at 12 o'clock by the Episcopal ladies. Date of the meeting left open, to be decided on by the society this evening. Scientific program was planned to follow the banquet. In all probability the committee would be able to secure Frank Billings and Robert Preble. These papers will probably take

until 2:30 or 3 o'clock, after which we were to be taken to the Naval Station at North Chicago by invitation of Admiral Ross to inspect the hospital and station in general. It was moved and seconded that the meeting be held June 20. This amendment to the motion was made, that we have the meeting on or as near the twentieth as possible, the date to be set by the secretary after he had looked up any possible conflicting dates. The amendment carried.

Dr. L. M. Bergen of Highland Park was elected toast-master for our society at this meeting. It was moved, seconded and carried that it should be the consensus of the society to the entertainment committee that we have at least three toasts, one by a Lake County man, one by a Kenosha man and one by a Racine man, and that further arrangements for these toasts be made by the committee and toast master.

No further business coming up we proceeded with the annual election of officers which resulted in the election of Dr. J. M. Palmer of Grayslake as president, Dr. F. M. Ingalls of Highland Park as vice-president and W. H. Watterson of Waukegan as secretary.

Those present were Drs. Foley, Bellows, Tombaugh, Ingalls, Bouton, H. B. Roberts, Watterson, Taylor, Bergen, Palmer, Sheldon, Galloway, Churchill, Fuller, Herschleder, Watson and Smith. W. H. WATTERSON, Secretary.

The meeting of the Lake County Medical Society was held at the Parish House, Waukegan, June 20, 1911. In the absence of the president, Dr. J. M. Palmer, Dr. F. M. Ingalls, vice-president, presided. At about 1 o'clock we sat at a beautiful banquet served by the ladies of the Episcopal Church. Some twenty doctors from Kenosha, Racine and Chicago were guests of the Lake County Medical Society and sat with us. The chair introduced Dr. L. M. Bergen of Highland Park as toastmaster. He was labeled with "The Label Doesn't Have to Define the Constituents of the Pill."

Medical NeighborlinessDr. S. Sorenson, Racine

"What good to you untutored youth affords
This headlong torrent of amazing words?"

The Modern Medical SocietyDr. S. W. Murphy, Kenosha

"With eyes upraised as one inspired."

"Our Northern Friends"Dr. A. C. Haven, Lake Forest

"Hard is the job to launch the desperate pun
A pun-job dangerous as the Indian one."

Medicine's Relation to the NavyAdmiral Ross, Naval Station, North Chicago

"Rend with tremendous sounds your ears asunder
With gun, drum, blunderbus and thunder."

The following medical papers were presented: "The Cystoscope as an Aid to Diagnosis of Pathologic Lesions of the Kidney," by Dr. John B. Legnard, Chicago. "Interpretation of Symptoms Pointing to Surgical Lesions of the Kidney" (illustrated by specimens), by Dr. Daniel N. Eisendrath, Chicago. Dr. F. Ludwig, of the Naval Training School, was elected a member of the society and a vote of thanks was extended our visitors from the North, Doctors Legnard and Eisendrath, for having added so much to the success of the meeting. The entire delegation then went in automobiles to the plant of the U. S. Naval Training School at North Chicago where they were personally conducted by Rear-Admiral Ross, and Dr. Frederick Ludwig, inspecting such parts of the institution as were of especial interest to the medical profession, including the filtration plant, the new hospital building and the sewage disposal plant, all of which are models of their kind and data concerning which are found below.

W. H. WATTERSON, Secretary.

DATA CONCERNING THE U. S. NAVAL TRAINING STATION, GREAT LAKES, NORTH CHICAGO, ILL.

THE WATER FILTRATION PLANT

The water filtration plant is located on the beach just south of the power house and on the site enclosed by the timber crib sea wall. It is equipped with two filters, each 46 by 62 feet, with a storage reservoir 94 by 30 feet. The filters will furnish 200,000 gallons of water daily, and the storage reservoir will hold 200,000 gallons more. These filter beds and storage reservoir have concrete floor and walls with a wooden roof. The filter beds have 8 inches of gravel at bottom in which are set drain tile on which rest about $3\frac{1}{4}$ feet of sand. Ordinarily there will be 3 feet of unfiltered water above this. The rate of filtration is taken at 2.4 million gallons per day per acre. There is an automatic regulating device to pass water to storage reservoir, where water will be 10 feet deep and from which it will be drawn by the service pump to mains. The contract price was \$19,092.

THE HOSPITAL BUILDING

Length, 241 feet $3\frac{1}{2}$ inches; breadth, 104 feet $9\frac{1}{2}$ inches; height, 60 feet center, 51 feet wings, 80 feet to top of cupola; stories, 3 center, 2 wings; area, 15,074 square feet; cubical contents, 753,700 cubic feet; cost per cubic foot, \$0.3070; contract price of building, \$231,400.

General.—The Hospital will accommodate about 100 patients. The central portion has kitchen, refrigerating, and store rooms in the basement; administration and subsistence, first floor; sick officers' and operating room, second floor; and quarters for hospital stewards and male nurses on third floor. The two wings of two wards each are provided with recreation rooms, quiet rooms, toilet, bath, and diet kitchens.

THE SEWAGE DISPOSAL PLANT

The sewage disposal plant consists of a grit chamber from which the sewage is discharged into two reduction tanks. These are of concrete floor, sides, and roof, and are about 67 feet long by 13 feet wide each, and provided with sludge pipes. The sewage passes through floating weirs to two anaerobic filter beds which are 37 feet by 13 feet each. The sewage is introduced through drain tile in the bottom and slowly rises through 2 feet of 6-inch stone, 2 feet of 3-inch stone, 7 feet of 2-inch stone, 2 feet of $\frac{3}{4}$ -inch stone, and 9 inches of $\frac{1}{4}$ -inch stone, by which time the anaerobic process is completed, and the sewage is introduced by automatic siphons through spray heads to the percolating or aerobic filter. This is about 68 feet square, and after sewage is aerated it passes down through about 8 feet of $\frac{3}{4}$ -inch to $\frac{1}{4}$ -inch crushed gravel and through perforations in walls and in tile at bottom to collecting gutters from which it is discharged into the lake. It is expected that the percentage of sewage purification will be about 99 per cent. The reduction tank is covered with concrete, the anaerobic filter is covered with a wooden roof and sides above concrete walls, and the percolating filter is covered in winter only with portable shutters resting on roof beams to exclude snow and wind. The drop in temperature in passing through the percolating filter is expected to be only 4 degrees. This plant is designed to handle 200,000 gallons of sewage per day without overload. Contract price, \$29,830.

LETTER TO SECRETARY FROM REAR-ADMIRAL A. ROSS

"I am in receipt of your letter of May 26, 1911, in which you inform me that June 20th, 1911, is the date which has been designated for the meeting of the Lake County Medical Society in June next, and that the physicians of Kenosha, Racine and Walworth Counties will be present at this meeting.

"In reply thereto I beg to inform you that I shall be very pleased to have the members of your society and its guests visit the Station and inspect such features

as will be of probable interest, and arrangements will be made for conducting your party through the institution. It is my understanding that the party will arrive here at about three o'clock on the afternoon of June 20th."

M'LEAN COUNTY

The April meeting of the McLean County Medical Society was called to order by the president, Dr. E. Mammen. After the ordinary business, it being the annual meeting an election of officers was held, which resulted as follows: President, Dr. Robert A. Noble, Bloomington; vice-president, Dr. Ferd. C. McCormick, Normal; secretary-treasurer, Dr. Thomas D. Cantrell, Bloomington; state delegate, Dr. Edwin P. Sloan, Bloomington; censors, Dr. E. L. Brown, Dr. J. W. Dobson and Dr. R. D. Fox; committee on program, 1911-12, Dr. H. L. Howell, Dr. Albert W. Meyer, Dr. Frank C. Fisher; committee on judiciary, Dr. A. L. Fox, Dr. M. D. Hull, Dr. O. M. Rhodes; committee on library, Dr. W. W. Gailey, Dr. R. D. Fox, Dr. J. K. P. Hawkes; committee on hygiene, Dr. Thomas W. Bath, Dr. Charles E. Chapin, Dr. W. H. Elder.

Dr. W. H. Elder read a paper on "Obstetrics." He said in part: Pelvic measurements are deceiving and you can not say to a mother whether she will have an easy or a hard time; no two cases are alike in the same mother. As the physician enters the room he should come with a look of assurance which will give the mother courage and confidence. Look well to the surroundings, dressings, antiseptics, chloroform, ergot, and to the nurse or nurses. Remove your coat and vest, scrub your hands and arms in solutions of lysol or bichlorid 1 to 2,000, at the same time have the nurse sterilize your gloves; apply them and make your examination. After patient has been given lysol douche, the obstetric gown should be worn. The progressive doctor does not leave his patient if he finds the os patulous and dilated to the size of a 50-cent piece, but remains and assists in dilatation by manipulation with the fingers, which will be of great service, increasing uterine contractions and hastening the delivery. Early rupture of the membranes helps, from the fact that after the fluid is drained out of the uterus the pains become harder, the head assumes the shape of the parturient canal and by farther manipulations the position of the head can be altered.

After the os is fully dilated I do not wait but give the mother sufficient chloroform to numb her pain and put on the forceps and deliver, not being in a hurry, using a little force, but hold gently the on-coming head to prevent the shuttle movement. If the head is abnormally large, then force is called for, with more or less chloroform. As the head descends great care should be used to avoid tearing the perineum by supporting it with the hand, lifting up the head. If necessary retard it until the parts are fully relaxed; then delivery is an easy matter. One of the most important steps is cleanliness. Physicians are careful at this date and obstetricians should be in every case—rich or poor. They should be just as careful as in preparing the patient for abdominal surgery. I consider a hard case of labor more trying and more difficult to handle than any of the so-called important and high-priced abdominal operations, with more danger to the mother. During the first stage the mother may be up and around the room. As soon as pains become quite severe or the membranes rupture the patient should be put to bed and the bowels flushed with water and the bladder emptied. The bed should be sterile in every way. When the membranes reach the floor of the pelvis they should be ruptured and care taken that there is not a loop of the cord prolapsed. Most obstetricians prefer the patient on the left side. I do not advocate inserting finger in rectum to aid delivery. Posterior shoulder should be delivered first. Don't make too great traction on child's body, wait for the uterine contractions to assist. To drag the body immediately through is not good practice. Wait ten minutes after delivery to sever the cord so that the child will receive more blood. The danger of the third stage is a relaxed condition of the uterus. Placing the hand on abdomen and kneading,

friction or the applications of cold towels will stimulate contractions. Some wait one-half hour for the contractions to expel the afterbirth. I have found it better to remove it within fifteen minutes. After sterilizing the glove I go right into the womb and clean it out. Contrary to most writers in these days of asepsis and antiseptics, I feel perfectly safe in putting the sterile gloved hand into any cavity of the human body. Repair lacerations at once. Examine urine each week of pregnancy and if you find albumen induce labor at once.

The May meeting of the McLean County Medical Society was held May 4, 1911, at Blomington, President R. A. Noble presiding. The Committee on Hygiene submitted a report as follows: During the past year, ending April 30, 1911, the mortality rate of the city was somewhat below that of the year previous. The total deaths being 381 as compared with 400 of a year ago. Estimating the city's population at 30,000 the death-rate for the year was 12.7 per 1,000 inhabitants. At this season of last year the city was swept with an epidemic of measles, mumps and whooping cough. It was impossible to estimate the total, but it is safe to say that each of these diseases claimed hundreds of sufferers among the children of the city. There has been no law in the city respecting either quarantining these diseases or instructing the authorities to placard the infected houses. We believe that there should be unanimous approval among the profession respecting detention from schools; also if quarantine were the choice of the profession. It is exceedingly embarrassing for the city physician to assume arbitrary procedures but this is sometimes necessary. During the summer and fall the above-mentioned diseases have greatly abated, evidently owing to the fact that about all the school children of the city had been made immune. Beginning with last fall the city went into the midst of a severe epidemic of scarlet fever. The total number of cases reported for the year was 132. Of this number there were seven deaths, all evidently of the mixed infection type. I think all these cases received antitoxin to the limit. Many other cases of this type which received antitoxin recovered. It is unfortunate that for these cases of the mixed type we possess as yet no curative serum. Every physician earnestly hopes and fully believes that for this dangerous type of disease we will soon possess, as we do for diphtheria, a specific serum. Contrasted with 132 scarlet fever cases we had twelve diphtheria cases with two deaths. In this connection your chairman believes that many light cases of scarlet fever and diphtheria are considered simply tonsillitis and are passed over as such. Evidently from these cases we unconsciously permit an epidemic to start which becomes exceedingly difficult to control. It is, of course, recognized that many of these cases of throat trouble, whether tonsillitis, diphtheria or scarlet fever, never receive the services of a physician, either through the inattention of the parent, or the great fear that some parents have of being quarantined. These are the cases which likewise spread the epidemics. But it is your chairman's belief that all cases of tonsillitis should receive an injection of diphtheria serum.

Typhoid fever began in a mild form last September. The total number of these cases has not been ascertained. Almost without exception the typhoid of this city has come from the water of infected wells. The city health commissioner had a number of wells analyzed by the State Water Chemist and found every well to be polluted and the water dangerous for use. The users of these infected wells were given written notice that it was dangerous to use such water and advised to see their landlords to have city water put in instead. However, these people, all being poor, had to abide by conditions and such was not done. The result was as foreseen and declared to the city council that eventually a typhoid epidemic would ensue, and that declaration of the health commissioner has become realized in that upward of twenty cases of typhoid fever now exist within this infected district. The district referred to is that of the 800 and 900 blocks of West Locust Street, and without doubt what is true of the well water of West Locust Street is true of all wells in the congested district of this and other cities. After fifty years of surface pollution, as western Bloomington has had, of uncleansed privy vaults and stable and kitchen

refuse that has seeped into every fissure of the ground, is it to be expected that wells sunk in such places can escape being filled with poisons that invite disease or death to the user?

Bloomington needs a crusade against filthy wells, against the vile outdoor closet, against owners of stables who persist in keeping manure on the premises which becomes the breeding place of millions of flies, and against the methods of the householder disposing of his garbage. We venture to say that the future generation, when they read our records of how we have tolerated such conditions as referred to above, will wonder why pestilence and death had not swept us off the face of the earth. It is with pleasure that your committee records the salutary effort made in this city last summer against the spread of tuberculosis. This tent crusade under the control of Dr. Mammen, president of this society, has set people thinking. The tent meetings were held in every quarter of the city, assisted by the Board of Associated Charities, by members of the McLean County Anti-Tuberculosis Society, and by the majority of the members of the profession in the city. Incidentally all the conditions necessary to a cleaner and more wholesome life were discussed and we think much good has resulted from these meetings and hope they will continue.

In conclusion, your committee believes better methods can be instituted by the city with reference to cleaning the streets in the business district. We think that now as Bloomington has an abundant water supply, if sidewalks and streets were hosed every night by a gang of men, the cleansing would greatly improve the looks and health of the city.

THOMAS W. BATH, Chairman, Committee on Hygiene.

Retiring President Dr. Mammen delivered his valedictory address. The essayist of the evening being absent, interesting cases were reported by several members.

MADISON COUNTY

One of the best meetings of the Madison County Medical Society was that of June 2 at Beverly Farm, Godfrey, at which time the members were the guests of their president, Dr. W. H. C. Smith, who has his headquarters at that place. There were twenty-two doctors present, and in addition to the exceptional contributions in a literary and professional way, they were regaled with elegant refreshments. It was an open-air session, held under the trees in the front yard.

Dr. Smith, as president, delivered his annual address, the general subject being "Epilepsy," which he illustrated with clinical cases. Dr. Smith is an acknowledged expert on this especial branch, a man of national reputation in his department.

Some of the figures that he presented were vastly interesting. He stated that there was one case of epilepsy to every three hundred people in the entire population. There are 250,000 in the United States. Of the 10,000 in Illinois only 1,000 are getting care and treatment, and only 250 of these are in the state school at Lincoln. The other 9,000 in Illinois get only such haphazard and unskilled treatment and care as their own homes afford.

Epilepsy is a disease that has been recognized and described for nearly 3,000 years, its early treatment being incantations and sorcery. Nowadays those of the patients under care are made far more comfortable and receive humane consideration.

The delegates to the state society at Aurora narrated their observations on that meeting, and it was voted to continue the life of the *Madison County Doctor*, the official journal of the society, which has just completed its first year of publication. The next meeting will be at Alton on July 7.

Members present: Drs. Nina P. Merritt, Yerkes, Barnsback, J. H. Fiegenbaum, Halliburton, Pfeifferberger, Hirsch, Schreifels, Sims, Wedig, Cook, Beard, Hastings, Ferguson, Robinson, Davis, Larrabee, Ihne, Fisher, Smith, Oliver and E. W. Fiegenbaum.

E. W. FIEGENBAUM, Secretary.

MERCER COUNTY.

The twenty-sixth annual meeting of the Mercer County Medical Society convened in the Circuit Court Room, May 9, 1911, at 1:30 p. m., and after the regular order of business the President, Dr. J. A. Kleinsmid announced the following officers elected for the ensuing year: President, Frank D. Rathbun, New Windsor; vice-president, Mathew O'Haver, Millersburg; secretary and treasurer, A. N. Mackey, Aledo; censors, T. D. Coe, Keithsburg, O. W. Lindorff, Mathersville, L. W. Ryan, Viola; delegate, A. N. Mackey, Aledo; alternate, Walter Miles, Viola.

On account of the death of Dr. M. G. Reynolds of Aledo, Dr. A. N. Mackey was elected as our legislative committeeman to fill said vacancy.

A. N. MACKEY, Secretary.

MORGAN COUNTY

The Morgan County Medical Society held its regular meeting, Thursday evening, May 11, 1911, at the Public Library. In the absence of Dr. H. C. Woltman, Dr. B. S. Gailey presided. The following members were present: Drs. Gailey, Duncan, Baker, Crouch, Black, Adams, Ogram, Pitner, J. U. Day, Campbell, Hardesty, Bowe, Hairgrove, Reid, Norris, Treadway, Anderson of Concord, Webster of Murrayville and Gregory. Dr. Hairgrove reported a case of cerebral sarcoma, which developed from a slight injury to the head, as follows:

A lady, some 76 years of age, received a slight bump on back of head. Later developed a lump or tumor which gradually increased until it covered an area of some 4 or 5 inches in diameter and elevated to the height of about 2 inches so that there was a considerable tumor mass on the patient's head. The tumor has not been painful, but disagreeable. Was certainly not fixed as a tumor would be attached to the bone and it seemed as if it might be easily removed. Incision was made 5 inches long. Attempted to peel out the tumor at the base of it. It was found that the bone was completely absent just under the edge of the tumor so that the whole tumor covered an open space in the skull. In a patient of this age, the condition that confronted us was discouraging. The tumor was of the characteristics of a sarcoma and covered a large area of the brain. Evidently it had started in the periosteum and this large area of the skull was gone. Strange such a condition could arise without more serious symptoms. Nothing more than patient becoming somewhat senile, slight loss of memory. The tumor was removed some ten days ago and at present time has shown little evidence of recurrence.

Dr. Reid and Dr. Hardesty reported several cases of tonsillitis with unusual glandular development simulating diphtheria, in which no membrane or other signs of diphtheria could be demonstrated.

The paper of the evening was read by Dr. William P. Duncan, the subject being, "The Society's Attitude in Local Ethical Relations."

A very interesting discussion followed in which Drs. Hairgrove, Crouch, Pitner and Bowe expressed their opinions, but no action by the Society was taken relative to the association of its members with non-eligible, unethical doctors outside of the Society.

Adjourned.

A. R. GREGORY, Secretary.

THE SOCIETY'S ATTITUDE IN LOCAL ETHICAL RELATIONS

WILLIAM P. DUNCAN, M.D., JACKSONVILLE, ILL.

In our daily duties there arise times when we, as physicians, wish aid to confirm, support or throw light on the case in hand when the patient for various reasons requests consultation. In case the physician asks for aid, he is generally the one to suggest whom he would like to see the case with him. Then he can have a consultant in whom he has confidence and can go freely into

the case, knowing his confidence will not be abused or violated and it will be to the patient's interest. On the other hand patients request men whom we know will not hold confidence, who will look after their own selfish interest, raise their personal advantage at the expense of the attending physician and patient, make mountains of trivial points and shake the patient's and family's confidence by open or more often suggestive remarks and actions; make radical changes in treatment and conduct of the case without need or due regard to all concerned: that is, give the same medicine in different form, etc. When we know such is the habit of a physician we all avoid if possible, meeting him. When such meeting is unavoidable the question is shall we withdraw from the case or put on our fighting clothes, wade in and give and take, let the patient get what he can? Consultations I believe to be of the greatest benefit, both to the patient and doctor and I believe should be encouraged by all of us, both in the fee and in the friendly ethical relations. Consultations often are avoided by the patient, family and friends for the sole reason of additional expense and a change of doctors often is made just to get another doctor's opinion on the case without the expense of additional consultation; call two or three, and then have the opinion of several to give to the physician whom they finally select to care for the case. In the friendly ethical consultation of two or more doctors who will carefully take the history from the attending physician, ask any additional questions, make a careful examination of the person of the patient and laboratory specimens and reports, then retiring in private, talk over the case, etiology, symptomology, diagnosis, prognosis, treatment and management, council freely without reserve or a knife up the sleeve seeking an opportunity to dig it in with a pleasant look and a smile. We all enjoy consulting with certain men of the profession as it is a real pleasure, not that they will always agree with us, but when they see something we have interpreted differently, show reason for their interpretation or when they take up something we have overlooked, call our attention to it. When changes are taking place rapidly in the development of conditions or at the crisis, cases often are obscure. If the regular attendant saw them a day or a few hours before when the consultation is at hand the case is more fully developed and is clearer to both, or it may require careful watching for some time before an opinion may be given.

As ethical physicians striving for the good of our patients and following as best we can the "Golden Rule," what shall our attitude be toward men in our locality who have been barred from the local hospitals, refused admission to the local society? Those who have not applied for admission to the local society for various reasons, yet are on the staff of the local hospital? Those who were formerly members of the local society, but dropped for various reasons? These are some of the questions that arise at intervals all the time. We do not know who has been refused hospital privileges, dropped or revoked from the society, who has not applied for admission. How are we to know these conditions without being informed by some authorized official and who should be that official? These are rather delicate questions to be met and I believe we should have uniform actions. If it is all right for one to counsel, or go to see the patient of a doctor who is not in good standing it should be for all. If not for all, not for a few favorite ones. If we can see a case with an unethical doctor, when a patient requests that an unethical doctor see a case with us, what shall we say? Shall we refuse, withdraw or what? Some medical men have a rule to counsel only with a gentleman or a scholar. We can all be the first and more or less of the latter. I believe we should have a general understanding or rule for all of us to go by, then we can know how to meet these questions as they arise. I recall a case of an unethical physician, who was an old friend of the patient's. The patient requested this physician to see him, not especially as a consultant, but with the understanding of the family, just to satisfy the patient. When the doctor came he assumed the entire management of the case, gave directions, etc., without asking what or how the case was being handled. There were two other men who had counseled and were working in harmony. He

hunted up the attending physician, gave him the orders. Of course, in this case it was at once one or the other out of the case.

The question is, what is the society worth if any man in the locality who is not a member of the society or is known as an unethical physician, can have the same hospital privileges, counsel with the members of the society, the same as those of us who are attempting to live and conduct our profession according to the code of ethics laid down by the A. M. A. and the state medical society? What standing does the society give to offset this condition? Is it just the privilege of paying dues or attending the local meetings? The non-members can go and hear and see all that the average member of the society can in the state society or American Medical Association; here they are strangers. What are we to do when we are called by a patient who has one of these non-society members as a family physician and the case being surgical, the patient requests the family physician to give an anesthetic at a hospital where the operator is later informed the family physician is barred? How was the operating physician to know this man was refused hospital privileges? Was it his place to go and ask? Was it his place to inform the family that this physician could not go to the hospital but could at the home give an anesthetic, or is it the hospital's place to so inform the non-members that they will not attempt to go to the hospital? Or shall the hospital so inform the society members who are in good standing and who are not, so the hospital can be notified in advance and take such action as they deem fit? What rights have the patient to insist on a non-ethical consultant and yet insist on retaining the attending physician, or shall we force the patient to give up his non-ethical attending physician before we will see him as a consultant? These questions are live wires and will not be settled by just a passover, but we must formulate in our discussions and arrive at a definite understanding covering these and other points which should be brought out in the discussion, or they will arise to trouble and puzzle us in the future as in the past.

The Morgan County Medical Society held its regular meeting Friday evening, June 9, 1911, at the Public Library, Jacksonville, with President Woltman presiding. The following members were present: Drs. Woltman, Cole, Bradley, Adams, Ogram, Milligan, Bartlett, Campbell, Hairgrove, Crouch and Gregory. The paper of the evening was read by Dr. Josephine Milligan, the subject being, "Infant Mortality." In connection with her paper, Dr. Milligan gave a very interesting and graphic report of the Child Welfare Exhibit held in Chicago last month. Drs. Adams and Crouch also emphasized the impressiveness and great interest manifested in the exhibit. Dr. Adams in his discussion, said that we might accomplish some things at home in regard to the milk problem. One would be to see that there were no preservatives put in the milk and that our milk should be delivered below a certain temperature. These two points are not radical and a great deal could be done if that could be followed out. I think the public would help us. The doctor gave a demonstration of making a simple sanitary drinking cup from paper for use in the office. If we stop to think of the numerous cases of tonsillitis, tuberculous and specific cases which frequent our offices, we are not thirsty, and of all places where one would hesitate more to drink out of the ordinary drinking glass, it is in the physician's office.

Adjourned.

A. R. GREGORY, Secretary.

INFANT MORTALITY

DR. JOSEPHINE MILLIGAN, JACKSONVILLE, ILL.

A most cursory view of infant mortality statistics shows the truth of the saying that the occupation of being a baby is extra hazardous; in fact it is only when the individual has reached the age of ninety that the death rate is as high as in the first year of life. During the past fifty years the general death rate has markedly decreased, except for babies under a year. In studying the

statistics by decades there has been a lessening in the infant mortality rate in the last decade. In the United States this is probably more apparent than real for the registration of deaths has always been more accurate than the registration of births. All registration is becoming much more accurate than formerly, though we are still far behind Great Britain and Europe in this respect. Phelps gives the average death rate for babies under one year for the civilized world as thirteen out of every hundred. This estimate is made from the broadest averages and is meant to be under the truth rather than over it. These figures in themselves are sufficiently appalling and when one reflects that there are quite a number that barely get over the infant dead line, to increase the mortality figures of childhood or to grow up weaklings, the urgency of action on the part of all of us is plain.

The statistics of twenty principal countries of Europe show that 162 out of every 1,000 born alive die before they are one year old. The statistics of thirty-one leading countries of the world including seven of the countries of Australasia, shows a death rate of 154 out of every 1,000. These figures are for the twenty-five years ending with 1905. For 1906 to 1908 the rate was 133 to each 1,000: Chili with 326 and Russia 268 head the list; Norway 90 and New Zealand 79 are the lowest.

In our own country Massachusetts and Connecticut have the most accurate vital statistics, New York probably next, so I quote a few figures from these states. In these three states the infant mortality for 1909 was less than for the previous decade. In Connecticut it was forty less per 1,000, in Massachusetts 295 less, in New York 21.4 less.

In the United States the causes of the highest percentages of deaths are under three heads. The diseases of the digestive system come first, with 29.5 per cent. The diseases of early infancy (premature birth—seven months—congenital debility and malformation) cause 23.9 per cent. and diseases of the respiratory system cause 16.5 per cent., i. e., the gastrointestinal diseases control the curve of the infant mortality. In New York City in 1909 the annual infant mortality was 130 to 1,000, but for June, July and August it was 169 to 1,000, showing the effect of heat on the mortality curve.

To compare the general tuberculosis death rate with infant mortality in 1908 there were 78,289 deaths from T. B. and 136,432 babies under one year died in the registration area of the United States of America.

It is hardly necessary to go into more statistical detail to prove that the infant mortality is horrible. The chief causes for this unnecessary waste must be studied. Dr. Holt says, the underlying causes are poverty, ignorance and neglect. If one thinks of the babies born under favorable conditions it is plain that such children have at least a fair chance to cross the dangerous first year of life. The children whose mothers must work before and early after delivery have a high death rate as is shown by the infant mortality of the mill towns in New England that give the highest rate in the United States census, and much higher than the rate in the mining towns where very generally the women are not employed out of their own homes. In this country there is no organized effort to try to help mothers. In France there are two societies whose object it is to find employment at home for expectant and nursing mothers and two societies whose object it is to teach the necessity of breast feeding to expectant mothers.

In England, Germany and Switzerland laws exist prohibiting the employment of women for a certain number of weeks after confinement. Poor food, including cheap, dirty and improper kinds of food are potent factors in the gastrointestinal diseases of infancy. As the average baby consumes about 500 quarts of milk in the first year of life, a study of infant food is chiefly a study of milk. The authorities state that a good milk, either maternal or from the cow, is the largest material factor in lessening infant mortality.

Figures show a great conservation of life due to breast feeding. Munich and New York City give practically the same statistics, i. e., of the artificially fed babies, 85 per cent. die; of the breast fed, 15 per cent. die. Tyson gives the

following results from a study of 150,000 infantile deaths; 75 per cent. were among the artificially fed. All over the world the breast-fed child shows a lower mortality rate. The mammary glands should develop at the age of puberty and every care should be taken to see that their growth is not retarded by overwork, overstudy or improper dressing.

The number of women who are able to entirely or partially nurse their children is variously estimated but is undoubtedly much higher than is usually thought. Menstruation has no effect on lactation, except to lessen the quantity. A second pregnancy should put an end to nursing and a tuberculous mother should not suckle her child; a syphilitic usually can nurse her baby. Engel of Dresden says all mothers can nurse their children. Madame Dlucki at the Bandeloque Clinic in Paris says, ninety-nine out of 100 can nurse their babies. Swartz, from a study of 1,500 women, found six who could not nurse because of inverted nipples (Mrs. Witty) and four who had no milk (Mrs. H. Capps) all the rest nursed their children from a few weeks to many months, i. e., ten from 1,500 were incapacitated for nursing. If a child must be artificially fed, cow's milk, by the consensus of authorities, should be the food. How to get good milk to the baby has been battled with many years. In 1892 Dr. Henry Coit of Newark, N. J., coined the word certified milk and planned how it could be produced through the activities of a medical milk commission and in 1893 the Medical Society of Essex County, New Jersey started the first medical milk commission in the United States. Roughly speaking the plan is to choose a dairyman of sufficient intelligence and honesty to try to produce milk of a standard excellence; to make sanitary, veterinary and biologic tests so that the standard is maintained. The standard being $3\frac{1}{2}$ per cent. butter fat, not over 10,000 bacteria to each c.c. and to deliver to the consumer milk at from 45 to 50 F. There are now over sixty-eight such commissions in all parts of the country. To produce a good milk it is necessary that the cow should be healthy. Holt says, at the Babies' Hospital 5.6 per cent. of deaths under one year are due to tuberculosis. Theobald Smith, who first discovered the difference between bovine and human tubercle bacilli, says that one-fifth of the tuberculosis in infancy is due to the bovine type. The ideal way is to have every cow tested by tuberculin. If this is impossible on account of expense, testing market milk may be substituted. Dr. Goler of Rochester has done a most remarkable work with the milk by centrifugalizing the cream or sediment and injecting 5 c.c. of this into guinea-pigs. If after two months the pigs react to tuberculin that dealer is not allowed to sell milk till his cows are tested by the state board and he is given a clean bill of health. Eight thousand cows supply Rochester with milk. Twenty per cent. of these were tested by tuberculin because of a positive reaction from the market milk and 12 per cent. of the tested cows gave a reaction. If a cow is suffering from a diarrhea due to improper feeding, such as a diet of brewery refuse, turnip leaves, wet grass or garbage, the bacterial count of her milk runs very high. If a cow is milked in a cleanly fashion the bacterial count of milk first from the udder will be from nil to 500; if not cleanly the count may run as high as 30,000. The ideal milk for a baby should have no more than 10,000 bacteria in each c.c., though 50,000 may be a safe number. Milk holds a peculiar position among food stuffs in that it is such an unexcelled (oysters rank a close second) medium for germs. If it were transparent it would show when it is dangerous from the cloudiness caused by the bacteria. Most of the germs in milk are of the saprophytic varieties fortunately, yet tuberculosis, typhoid, scarlet fever, diphtheria, Malta fever and milk sickness have been carried in milk and though saprophytes are not pathogenic to man, they may elaborate toxins that render milk poisonous. It is the growth of these germs that always makes old, warm, dirty milk dangerous.

To get the milk from the cow to the consumer and from the consumer to the baby is a big problem, but if the milk is delivered to the house clean, wholesome, cool and not too old, what provision has been made to teach the mothers how to keep it wholesome and how to feed it so it will be digested by the infant? We teach our girls everything from Greek to how to make a dress, but not

how to be wives and mothers; yet we expect 90 per cent. of them to be mothers of the next generation. One hundred and sixty-five babies out of every 1,000 born alive in the last generation were sacrificed in the registration area of the United States, due, in a certain measure, to that ignorance. It has been said it is more important to have intelligence in a mother than good milk to feed a baby.

It certainly is a larger and harder problem to teach the mothers than to procure a good milk supply. Because of the truth of this in Chicago the milk commission was changed into a child welfare station, adding to the duty of getting good milk for babies the duty of instruction to mothers as to the care of the babies in every particular as well as how to feed them.

In order to lessen infant mortality it is not only the mothers who need instruction, but also the fathers and the doctors. In 1905 the Committee on Education of the A. M. A. gave pediatrics the same number of hours in the curriculum as to electro-therapeutics. In the 1909 revision twice as many hours were given to pediatrics as four years before. Holt makes the statement that there are not more than six medical colleges in the country that have well equipped courses in pediatrics.

This brief summary of infant mortality and its causes leads us naturally to the question as to what is being done about it. All the large cities and many of the smaller ones have dairies that offer for sale certified milk. Very generally an effort is being made to create a demand for better milk; even in Jacksonville, the Morgan County Medical Society has had two or three milk meetings. A demand that is based on the knowledge that the gastrointestinal diseases of infancy with their consequent morbidity and mortality are almost entirely due to poor milk, milk rendered dangerous on its course from the cow to the baby. Eugenics will lessen the rate of the second chief cause of infant mortality, i. e., premature birth at seven months and congenital debility and malformations. There is a widespread attempt to teach both profession and the laity how to raise a better crop of boys and girls. The third great group, the respiratory diseases that cause a high infant mortality is being combated by the gospel of fresh, pure air.

About three years ago the American Association for the Study and Prevention of Infant Mortality was founded in Baltimore. At their second annual meeting they had a small exhibit to teach the facts graphically of the appalling rate of infant mortality.

MOULTRIE COUNTY

The Moultrie County Medical Society met April 18, 1911, in the grand-jury room at the Court House in Sullivan. The president and secretary being absent the meeting was called to order by Dr. R. B. Miller. Dr. J. F. Lawson was elected president pro-tem and Dr. Miller, secretary. This being the time for the annual election of officers the following were elected: Dr. G. B. Kessler, president; Dr. W. P. Davidson, secretary and treasurer; censors, Dr. C. M. Williamson of Sullivan, Dr. J. D. Hardinger of Gays and Dr. J. H. Vadikin of Bethany. After the business was transacted Dr. J. L. Wiggins of East St. Louis gave an address on "Evolution of Surgery," with report of cases of gall-bladder and appendiceal involvement. It was very instructive and enjoyed by all present.

W. P. DAVIDSON, Secretary.

PERRY COUNTY

The Perry County Medical Society held its regular meeting at Pinckneyville, Thursday, June 8, Dr. O. C. Church of Tamaroa, vice-president in the chair. Members present: Drs. J. S. Templeton, W. L. McCandless, M. Adles, H. Roe, J. S. Cleland and F. P. Gillis. This was pronounced the best meeting the society has ever held. Dr. Logan G. Kimzey was unanimously elected to mem-

bership. After disposal of the routine business two cases were presented by Dr. Templeton for examination and operation. After examination by all present one of the cases was anesthetized with ethyl chlorid and adenoids and one tonsil removed. The other case was examined and operation deferred. Dr. Gillis read a paper on adenoids which brought out a spirited discussion of the subject by all the members. A vote of thanks was extended to Dr. Templeton for presenting interesting cases, after which the society selected summer diseases of children for the subject for discussion at next meeting and adjourned to meet at Pinckneyville, July 13.

F. P. GILLIS, Secretary.

ROCK ISLAND COUNTY

Regular Meeting, April 11, 1911

The annual meeting of the Rock Island County Medical Society was held at the New Harper Hotel, Rock Island, April 11, 1911, at 7 p. m. After dining the business of the evening was taken up. Minutes of the February meeting were read and approved. The secretary read correspondence regarding the Optometry and State Board of Health bills, and letters which he had sent our legislative representatives from this district urging them to defeat the Optometry Bill and support the amended State Board of Health Bill. A communication from President James of the University of Illinois, asking for action on resolutions in support of the \$100,000 appropriation for the medical department of the University, was read and the resolutions adopted. Resolutions from the Williamson County Medical Society entitled "A" and "B" urging certain State Medical reforms passed by that society March 2, 1911, were read and ordered laid on the table. A letter from the Fox River Valley Medical Society was presented extending our society an invitation to be present at the state meeting at Aurora in May. The application for membership of Dr. D. B. Freeman of Moline was read and laid over under the rules. Drs. R. C. Meyer, Peterson and Chapman were appointed on his committee. On motion of Dr. Sala it was decided to make the next meeting of the society a memorial meeting with appropriate program in memory of the late Dr. G. G. Craig, Sr. Drs. Sala, C. O. Bernhardt and DeSilva were named a committee in charge of the meeting.

The proposed amendments to the constitution and by-laws which reduced the society meetings to twice yearly and dues to \$5 were defeated. The following bills were allowed: Manufacturers' Hotel, \$18; printing, \$5.05; flowers (Dr. G. G. Craig), \$10; Secretary's salary and postage, \$15. The annual election of officers was then held. The rules were ordered suspended and the presiding officer, Dr. W. L. Eddy, was elected president; Dr. E. Sargent, first vice-president; and Dr. W. D. Snively; second vice-president; A. N. Mueller, secretary (re-elected); A. T. Leipold, treasurer (re-elected), by having the secretary cast the ballot of the society for the respective candidates. The retiring president Dr. H. S. Bennett was elected delegate and Dr. J. R. Hollowbush, alternate to the state meeting at Aurora in May. On motion of Dr. Eyster a vote of thanks was extended Dr. Mueller for efficient services as secretary; carried. Meeting then adjourned. Present: Drs. First, Eddy, Ostrom, Comegys, Dart, Chapman, Snively, Peterson, Sala, Eyster, Leipold, Ludewig, Sargent, Asay, Souders, Craig, Jr., Freek, C. O. Bernhardt, Carl Bernhardt, Hollowbush, Williams, Hall, Lamping O'Hern and Mueller.

ALBERT N. MUELLER, Secretary.

UNION COUNTY

The Union County Medical Society was called to order at 10:30 a. m. by the president, T. Lee Agnew, at the Hale Home Sanatorium in the city of Anna. The following members were present: Drs. T. Lee Agnew, D. W. Greer, E. V. Hale, J. I. Hale, T. J. Rich, J. C. Stewart, all of Anna; Drs. J. J. Lence, A. J. Lyerle and K. D. Sanders of Jonesboro. The following visitors were present: Dr. J. W. Hamilton of Mt. Vernon, Ill., Dr. Willard Tarr of Grand Chain, Ill., Dr. M. L. Winstead of Ullin, Ill., Dr. F. M. Agnew of Makanda, Ill., Dr. T. L.

Granay, Balcom, Ill., Dr. Wilcox Thorn of St. Louis, Mo., and Drs. E. A. Foley, W. G. Morrow and H. N. Richie of the Anna State Hospital staff. The doctors' wives were present, Rev. E. W. McClusky and wife and E. A. Davie and wife.

Dr. J. I. Hale read a paper entitled "The Union County Medical Society." Dr. J. J. Lence of Jonesboro read a paper on "General Principles." Dr. Rich spoke on "The Old Doctor." After some discussion by some members of the papers read the meeting adjourned to the dining-room where the sanatorium management gave a noonday luncheon, which seemed to be enjoyed by all.

After luncheon the meeting was called to order and the program resumed. Editor E. A. Davie read an excellent paper on "The Doctor and the Press." Dr. F. M. Agnew gave one of his most excellent talks on "Reminiscence of an Old Doctor." Dr. Hamilton gave an interesting talk on "The Organized Profession." Rev. E. W. McClusky gave one of his regular and popular talks, the title of his speech being, "Life's Compensations."

A general discussion of medical affairs was then entered into and several members participated. All departed feeling well repaid for the time spent at the meeting.

E. V. HALE, Secretary.

WHITESIDE COUNTY

The Whiteside County Medical Society met June 14 in Prophetstown. The program was confined to the study of children's diseases. Fully two-thirds of the membership of the society was present and a very profitable session was enjoyed. Drs. A. B. Johnson and J. H. Tascher of Prophetstown were elected to membership in the society.

The morning session was devoted to the reading and discussion of Dr. Horner's paper on "Cause and Treatment of Gastro-enteritis," and Dr. Parker's paper on "Diagnosis of Measles." The afternoon session opened with the report of Delegate J. A. Nowlen to the state society. Dr. Maxwell gave a timely paper on "Some General Considerations in the Treatment of Children." Dr. Sullivan reviewed several typical cases of poliomyelitis which he had attended during the month of May. Practically every one present took part in the discussion of these papers. The point was made that these cases were all in the same neighborhood and probably came from the one original case, but the virus could not have been transmitted by flies, as it was too early in the season.

W. H. PERRY, Secretary.

Book Notice

MERCK'S MANUAL OF THE MATERIA MEDICA. (Fourth Edition.) A Ready Reference Pocket Book for the Physician and Surgeon. Containing a comprehensive list of Chemicals and Drugs—not confined to "Merck's"—with their synonyms, solubilities, physiological effects, therapeutic uses, doses, incompatibles, antidotes, etc.; a table of Therapeutic Indications, with interspersed paragraphs on Bedside Diagnosis, and a collection of Prescription Formulas, beginning under the indication "Abortion" and ending with "Yellow Fever;" a Classification of Medicaments; and Miscellany, comprising Poisoning and Its Treatment; and an extensive Dose Table; a chapter on Urinalysis, and various tables, etc. Merck & Co., 45 Park Place, New York: 1911. Four hundred and ninety-three pages. Sent on receipt of forwarding charges of 10 cents, in stamps, to physicians, or to students enrolled in any college of medicine in the United States.

NEWS OF THE STATE

NEWS

—Contract has been awarded for the erection of an isolation hospital at Fort Sheridan, to cost \$21,000.

—Dr. T. C. Hainline, of Seaton, suffered a loss of \$600 on June 10 on account of fire which burned out his entire office outfit.

—A free tuberculosis clinic was opened at St. Elizabeth's Dispensary, Blackhawk Street, and North Ashland Avenue, Chicago, June 2.

—A bill prohibiting the sale of hypodermic syringes or needles at retail has been passed by the New York Legislature, and signed by the Governor.

—Dixon and Rockford are said to be making strenuous efforts for the location of the new state insane hospital, for which \$1,500,000 was appropriated last legislature.

—Memorial services for the late Prof. James Nevins Hyde were held in Rush Medical College, June 12 at 11 a. m., Dr. James B. Herrick delivering the memorial address.

—The extensive private medical library of the late Henry Gradle has been presented by Mrs. Gradle and her children to the Crerar Library and will be known as the Henry Gradle Memorial Collection.

—By the sale of eight corner stones and other privileges, \$5,000 was raised May 28 for the Maimonides Kosher Hospital, which is now in course of construction at California Avenue and Rebecca Street.

—Plans are being prepared for the initial building for the Chicago Fresh Air Hospital at 7528 North Western Avenue. A three-story administration building, 50 by 150 feet, is the first to be erected.

—The Danish Hospital Association has been incorporated and proposes to build a Danish Hospital on the south side of Chicago, in honor of Dr. Christian Fenger, to be known as the Fenger Memorial Hospital.

—Lake County celebrated its annual tag day, June 3. The proceeds, about \$5,000, were divided between the Lake Bluff Orphanage, the Lake County Tuberculosis Institute and the Jane McAlister Hospital, Waukegan.

—Property near the Michael Reese Hospital has been purchased by the trustees of that institution on which the Sarah Morris Hospital for Children, for which \$300,000 was provided in the will of the late Mr. Nelson Morris, will be erected.

—Members of the Rock Island County Medical Society honored the memory of the late Dr. George Gorgas Craig of that city, June 13, by holding a memorial meeting at the Manufacturers Hotel, Moline. The program was in charge of a committee consisting of Drs. E. M. Sala, Carl Bernhardt and Joseph De Silva.

—Dr. Francis Dickinson has been added to the board of trustees of the Mary Thompson Hospital. There is now in the bank a fund of \$10,000 to the credit of the hospital and the Chicago Woman's Club will provide, it is said, against any deficit.

—At the annual meeting of the Physicians' Club of Chicago, held in the New Hotel Sherman, May 26, Dr. Alfred N. Murray was elected secretary and Drs. George Edwin Baxter, Alexander H. Ferguson and Harry P. Woley were elected directors.

—Dr. Joseph M. Patton was elected president of the Chicago Medical Society, June 20, and Dr. George F. Suker was reelected secretary. Drs. Frederick Tice, Charles E. Humiston, Edward Brown, Hugh T. Patrick and Frank Billings were elected councilors at large.

—At a meeting of the Jewish Consumptive Relief Society, recently, it was decided to erect a tuberculosis hospital to cost \$75,000. A sinking fund of \$3,000 has been set aside and on June 4 a vaudeville performance was given at the Colonial for the benefit of this charity.

—The class of 1899 of Rush Medical College held its annual reunion and dinner at the Bismarck Garden, June 15. Dr. William D. Byrne, president, and Dr. John D. Ellis, the secretary, announce that they will be glad to hear from out-of-town members of the class who may be visiting Chicago.

—In the examination for interns for Cook County Hospital, of the first fifty places on the eligible list, Northwestern University Medical School received seventeen, Rush Medical College sixteen, the College of Physicians and Surgeons ten, Bennett Medical College six, and the College of Medicine and Surgery one.

—At the annual meeting of the Chicago Pediatric Society, held May 22, Dr. John M. Dodson was elected president, Dr. Alexander C. Soper, vice-president; Dr. Joseph W. Bremerman, secretary; Dr. Mark Jamopolis, treasurer; Dr. Harry F. Helmholz, editor, and Dr. Isaac A. Abt, member of the executive committee.

—Plans for a home for the nurses of Mercy Hospital, Chicago, have been started by the sisters in charge. It is proposed to erect a building to cost \$100,000 and to accommodate 120 nurses. The urgent necessity for this lies in the fact that seventy of the nurses will soon be obliged to leave their quarters on account of a decision of the city building department.

—Dr. Frank H. Jenks, for many years assistant superintendent of the Elgin State Hospital, left that institution May 10, to take charge of the Ransom Sanatorium, Rockford. Before he left a farewell dinner was given in his honor by Dr. Sidney D. Wilgus, superintendent of the institution, and Dr. Jenks was presented by the medical staff with an office chair and a purse of money.

—Dr. Clinton Helm, of Rockford, aged 82, performed a daring act by rescuing his 3-year-old granddaughter from drowning in Rock River early in June. The child had disappeared in the water, but a stick held by her protruded and guided the doctor, who dived for the body. When the child was brought to the shore the doctor was exhausted but none the worse for his experience.

—Governor Deneen has signed the bill providing for an appropriation of over three and a half million dollars for the immediate support of the University of Illinois and for a mill tax each year for the future. Another item in the bill provides for \$60,000 per year for two years for the College of Physicians and Surgeons of Chicago, which will hereafter be known as the College of Medicine of the University of Illinois.

—On June 6 the third meeting of the members of the Medical Reserve Corps, U. S. Army, was held in Chicago. Lieut Charles Adams, surgeon-general of Illinois, presided and Lieut. Samuel C. Stanton was secretary. After remarks by Col. L. Mervin Maus, M.C., U. S. Army, and Surgeon George B. Young, U. S. P. H. and M.-H. Service, on the scope and object of the medical reserve corps a constitution was adopted and the Association of the Medical Reserve Corps U. S. Army, Illinois Division, was formally organized and the following officers were elected: President, Lieut. Frank Billings; vice-president, Lieut. Edmund J. Doering; secretary and treasurer, Lieut. J. Allen Hornsby; and councilors, Lieuts. Chas. Adams, Junius C. Hoag, D. A. K. Steele and Albert E. Halsted. Votes of thanks were given to Col. Maus, and Capt. James F. Hall, M.C., U. S. Army, for their aid in organizing the association, and those gentlemen with Surgeon George B. Young, U. S. P. H. and M.-H. Service, and Brig.-Gen. Robert M. O'Reilly, M.C., U. S. A., retired, were made honorary members of the association.

—The Otto S. A. Sprague Memorial Institute was organized in January, 1911, as a memorial to the late Otto S. A. Sprague, who designated his brother, A. A. Sprague, as the chief instrument through whom funds left by will should be expended. The institute was organized by A. A. Sprague, with the following as members of the corporation and the first board of directors: A. A. Sprague, A. A. Sprague, II, son of Otto S. A. Sprague, A. C. Barrett, J. P. Wilson, C. L. Hutchinson, Byron L. Smith, Martin A. Ryerson and Dr. Frank Billings. The directors have decided on medical research as the chief object for which the income of the memorial funds shall be expended and have elected Dr. H. Gideon Wells, of the University of Chicago, to direct the research in medical problems; the work will be done in cooperation with the University of Chicago, Rush Medical College, Presbyterian Hospital, and the Children's Memorial Hospital. The institution will command a definite number of beds in the Presbyterian Hospital for the study of any disease under investigation. An advisory council has been appointed consisting of Drs. Frank Billings, James B. Herrick, J. L. Miller, Edwin R. LeCount, Ludvig Hektoen and Profs. E. O. Jordon and Julius Stieglitz.

PERSONAL

Dr. Frank Edward Simpson, Chicago, has returned from abroad.

Dr. and Mrs. Merritt C. Bragden, Evanston, have sailed for Europe.

Dr. and Mrs. Clarendon Rutherford, Chicago, have started for Europe.

Dr. Robert S. McCaughey and family, Hoopeston, have sailed for Europe.

Dr. P. J. H. Farrell, Chicago, has recovered from his recent illness and resumed practice.

Dr. Chas. True, Kankakee, is reported to be seriously ill as the result of cerebral hemorrhage.

Dr. Harry S. Oyler, Lincoln, sustained painful injuries in a run-away accident, May 27.

Dr. Newton D. Lee, Chicago, is said to have narrowly escaped drowning at Gray's Lake, June 4.

Dr. Nelson J. Shook, Kendallville, was severely shaken up when his automobile overturned, May 27.

Dr. and Mrs. Olaf Martin Steffenson, Chicago, sailed for Europe June 24 and expect to return in six months.

Dr. Duncan B. McEachern has been appointed temporary superintendent of the Contagious Disease Hospital, Chicago.

Dr. Lee Smith, Bloomington, a member of the McLean County Medical Society for fifty-six years, has been appointed a life member.

Dr. Thomas J. O'Malley was cut by broken glass in the hands and arms, June 13, when a runaway team ran into the platform of a car on which he was riding.

Dr. George E. Shambaugh, secretary of the Section on Laryngology, Otology and Rhinology, who has been ill with typhoid fever for three weeks, is reported to be improving.

Dr. H. G. W. Reinhardt, coroner's physician, has resigned to become statistician of the Cook County Hospital. He will be succeeded by Dr. E. R. Le Count, professor of pathology at Rush Medical College.

Dr. George Steely has been transferred to the surgical staff of St. Elizabeth's Hospital, Danville; Dr. Raymond L. Hatfield has been appointed a member of the surgical staff, and Dr. Fred A. Baumgart has been made a member of the medical staff of the hospital.

PUBLIC HEALTH

—Dr. Willis O. Nance, Chicago alderman and member of the committee on health, caused to be passed an order directing his committee to prepare an ordinance to abolish the use of the common or "garden" variety of roller towel in public lavatories. "The common or roller towel," said Dr. Nance, "like the common drinking cup, recently abolished by legislative enactment, is unquestionably a decided menace to public health, and its use should be prohibited. That many contagious diseases are transmitted by it is known to every physician. Certain severe inflammatory eye diseases, some of them causing absolute blindness, are more generally transmitted in this way than in any other. This fact has been taken cognizance of by the United States government authorities, and in Indian schools, where many children are kept together, the roller towel has been replaced by the individual article. Skin dis-

eases, some of a serious and loathsome nature, tuberculosis, and even diphtheria, typhoid fever and pneumonia are capable of transmission by the common towel. From the standpoint of cleanliness and hygiene, as well as for the protection of the public health, the roller towel in public places should be relegated to unhallowed oblivion."

—A very considerable part of Chicago's typhoid in August and September has been found to be among persons returned from vacations at summer resorts and among those who make automobile trips into the country. Such cases are classified as "imported" typhoid, the infection having been contracted outside of Chicago. Probably the commonest source of infection is a polluted water-supply, but milk and flies are also sources of danger. Chicagoans spending their vacations in the country will do well to pay full heed to this warning. Look carefully to the water-supply, to the milk-supply and to the general sanitary conditions surrounding. In determining the sanitary quality of the water you are to drink, bear the following points in mind: Shallow-dug wells, especially those near outhouses and barn-yards, are practically always polluted wells; waters derived from lakes and streams into which sewage is deposited are polluted waters; a clear, sparkling water may be a dangerously contaminated water. If you are in doubt about the water-supply, send a sample in a properly sterilized bottle (bottle and cork boiled before filling) to the Chicago Health Department laboratory for analysis. Pending a report on the examination—*boil the water*. Automobile parties touring the country should exercise extreme care in the selection of drinking water; the frequent changes of supply mean increased danger of consuming polluted water. Parties on short trips should provide themselves with a sufficient supply of water, bottled in their homes, to meet the needs of the whole trip. It is now possible to secure bottles which will maintain water at a low temperature for a considerable period of time. Another water danger lies in bathing in lakes and streams near the outfall of a sewer. One can hardly fail to swallow some of this sewage-polluted water, certainly some of it will come in contact with the lips and eventually will find its way into the mouth. Investigate your milk-supply. If possible, look over the farm from which it comes. If the barn, the cows, the milkers or the utensils are dirty, or if there is a case of suspicious illness on the farm, or if you are in doubt about the sanitary quality of the milk, pasteurize it before using. Shun places swarming with flies. Always look on these filthy insects as danger signals; you can be sure there's filth, and lots of it, in the neighborhood. Clean, safe food cannot be served in a dining-room in which there are swarms of flies. Screens, fly swatters, fly poisons and fly-catching papers are quite indispensable to safety at summering places in country districts. If the fullest measure of benefit is to be derived from a vacation in the country, it is essential that a strict observance of the advice here offered be followed throughout the entire vacation period.—From *Bulletin Chicago Department of Health*.

MARRIAGES

EDWARD L. HEINTZ, M.D., to Miss Bertha Marie Hansen, both of Chicago, May 4.

WILLIAM WESLEY PETER, M.D., Toledo, to Eleanor E. Whipple, M.D., Chicago, May 4.

JAMES ALEXANDER LOGAN, M.D., Colona, Ill., to Miss Clara Rimbey, Murrayville, Ill., April 24.

OLAF MARTIN STEFFENSON, M.D., Chicago, to Miss Leonelle Pearl Perrin, of Waukegan, June 19.

DEATHS

ALEXANDER M. STOUT, M.D., of Chicago; superintendent of City Contagious Disease Hospital, died at the hospital after an illness of two days of cerebral hemorrhage, May 20, 1911.

BENJAMIN KINYON, M.D., University of Michigan, Ann Arbor, 1871; for many years a practitioner of Cincinnati, Ill.; for eight years a member of the Board of Supervisors; died at the home of his daughter in Wilmette, Ill., April 12, aged 68.

SAMUEL ECCLESTON HOLTZMAN, M.D., New York University, New York City, 1862; assistant surgeon and surgeon of the Fifty-eighth Indiana Volunteer Infantry during the Civil War; formerly of Pontiac, Ill., but of late years a resident of Takoma Park, D. C.; was found dead at his summer home in Ocean Grove, N. J., May 8, from heart disease, aged 73.

JASPER TIDBALL, M.D., University of Michigan, Ann Arbor, 1874; Bellevue Hospital Medical College, 1878; a member of the American Medical Association; local surgeon at Grafton, Ill., for the Chicago, Peoria, St. Louis Railway; who gave up practice about two years ago and went to San Diego, Cal., died at his home in that place, April 25, from pernicious anemia, aged 62.

ISAAC NEWTON DANFORTH, M.D., one of the best beloved of the older physicians of Chicago; died at his home May 5, 1911, from heart disease, aged 75. Dr. Danforth came of a distinguished New England family dating from 1634, many of whom were physicians, and this led to his adopting the profession of medicine. He graduated at Dartmouth in 1862, which college also gave him the A.M. degree. In 1866 he arrived in Chicago and was soon engaged in teaching medicine, first in Rush, later at Northwestern and the Woman's College. He became attending physician at St. Luke's Hospital, was pathologist of Cook County, and consulting physician to various other hospitals. He belonged to many of the Medical Societies, including the Illinois State Medical Society, and was a constant supporter of all that was best in them. In recent years his literary contributions ran largely to medical history and biography. He was greatly interested in medical missionaries, and founded a hospital in China in honor of his first wife. He was well known and will be sadly missed.

TYPHOID DANGERS AT SUMMER RESORTS



Educational Poster—Series 1911—No. 50; Department of Health, Chicago.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED AT THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER

VOL. XX

SPRINGFIELD, ILL., AUGUST, 1911

No. 2

ORIGINAL ARTICLES

THE ANTE-MORTEM AND POST-MORTEM EXAMINATIONS OF THE CRIMINAL, JOHN JUNKINS *

REPORT OF THE IOWA STATE BOARD OF HEALTH

H. J. H. HOEVE, M.D.

Professor of Anatomy in Drake University
DES MOINES

That man thinks, feels, desires and acts according to the anatomical construction and physiologic development of his brain was even in olden times (Erasistratus) a conviction, and I therefore need offer no excuse for having been desirous of examining the entire body of John Junkins, whose most atrocious crime was marked by a degree of brutality and destructiveness seldom encountered in average criminals. Having studied Junkins during his trial, I was convinced more than ever that a normal healthy human being could not do the things he had done, and therefore concluded that he was diseased or defective. Disregarding some findings of tertiary syphilis, my attention was attracted by the disproportion between the different parts of his body¹ as exhibited by the enormous mandible, the beef-like neck, the long upper extremities on which the hands were fitted like the blade of a spade, and the big feet, which factors certainly did not speak against the possibility of the presence of an atypically constructed brain, and I therefore had no hesitation in pronouncing him a born criminal. Judging from a close examination of his personal history, it is plain that he was also a criminal from environment and by education and I felt positive that by a close study of his brain I could settle the question as far as my own mind was concerned whether the brains of non-diseased criminals exhibit a deviation from the normal type.

* Read before the Chicago Medical Society (by request), May 31, 1911.

1. De Giovanni, A.: The Morphology of the Human Body; translated from the Italian edition by J. J. Eyre.

I wish to extend my appreciation to Judge J. C. Mitchel and Judge F. M. Hunter, both of Ottumwa; to Dr. G. H. Sumner, secretary of the State Board of Health, and to Attorneys J. Price of Albia and S. Cornell, for their valuable advice and assistance wherever this was possible, and also to Mrs. A. Junkins for permitting what few mothers would permit: the anatomical examination of the body. I desire to thank my former assistants, Mr. R. Smith, Mr. W. Betts and Mr. B. Yates, for their valuable assistance and especially for their faithfulness, their accuracy and their painstaking labor during many long evening hours in connection with the examination of the body, the making of casts, photographs, drawings, lantern slides, etc.

Family History of Junkins.—His father had no education, used alcoholics and died of delirium tremens in the detention hospital. All relatives on his father's side drank. His mother had a fair education and seemed to have the best mental equipment of them all, although one of her brothers was sent to the penitentiary for five years, and as I understand it another brother was sent to jail for a holdup. One of her sisters had disease of the thyroid gland. There are no cases of insanity on either side of the family.

Personal History; Early Life.—Junkins was born in the part of Ottumwa known as Smoky Row, Aug. 6, 1886, and as I have learned from men who knew him at that time, he had nobody to look after him when he was a little boy. He was frequently compelled to live on whatever he could find by himself; in other words, when very young he was a tincan tramp of necessity.

Habitat.—According to what I am told, Smoky Row, the place where he received his early education, was at that time and even up to a few years ago worse than the anteportals of hell. It goes without saying that the following incident as remitted by one of our university students might be true, namely, that Junkins when a little boy, while playing with some other boys, kindled a fire in an old tree-stump and his own little white dog being around and not behaving exactly to please him, was seized by him and thrown bodily into the fire.

Habits.—He became addicted early to alcoholics and by those who knew him at the time it is stated that he would steal for a friend and that he never went back on a pal.

Surroundings.—As was to be expected, the boy of poorly equipped parentage, of criminal education and brought up in criminal surroundings which the state permitted to exist in Smoky Row, made the acquaintance with the Eldora Reform School (1892) at the early age of nine years, being committed of robbing McCarroll's hardware store in Ottumwa. He stayed there six and a half years and then made his escape. Now being a lad of about sixteen years of age, he was permitted to roam around the country and as could be expected acquired all the vices which were new to him. According to his own statements, he smoked opium with the Chinese and used snuff between his teeth and lips when among the Swedes in addition to smoking, chewing and drinking, not to say anything about his abnormal indulgence in venery.

First Crime.—It seems that the Eldora term did some good, for we do not find him coming in conflict with the law until April 12, 1905, when he was sent at the age of 19 to the Fort Madison Penitentiary for five years by Judge Robert Sloan of Wapello County, after being convicted for the first time in his life for robbing a woman, Mrs. Lena Stebb. According to his own statement, he never did any work and was loafing all the time. According to the statistical prison record, of which I received a copy through the kindness of Warden Sanders and Deputy Stevenson, his term expired by commutation on Jan. 11, 1909. During this imprisonment he was punished at five different times for insolence and bad behavior in his cell, but at no time was he reported for any violent act incident to personal injury.

Last Crime.—Only twenty-four days (Feb. 5, 1909) after being released from prison, this same man committed a most brutal murder on a woman, Miss Clara Rosen, with the possible object of robbery and rape, for which he was sent to prison June 2, 1909, in order to pay the penalty for his crime (hanging) on July 29, 1910, which was administered as scheduled. Deputy A. E. Stevenson writes that his behavior during his final imprisonment was of necessity not troublesome, as he was continuously in solitary confinement.

Examination of Junkins During His Last Trial at Centerville, May 25, 1909.—(Only those factors are recorded here which seem of practical importance.) Race, negro, with more or less admixture of white blood. Age, 26 years. Temperament, motive, vital (for a scientific interpretation of temperaments see note 1). Family history, see page Personal history, see page Habits, bad, drinks, swears, chews, smokes, uses all kinds of stimulants he can get hold of and as many cigarets as he has money for. Previous diseases, contracted gonorrhea six years ago and also syphilis; claims to have received an injury over the left parietal eminence.

Present Condition.—Height, 5 feet 8 inches. Weight, 158 pounds. A slightly scaphocephalic head. A larger facial than anterior cranial development.^{2, 3} Transverse ridges on the upper two medial incisor teeth. A deep palatal arch. Irregular movement of left eye to right, possibly due to a muscular insufficiency of the left external rectus. Pulls mouth to left side during talking. Physiognomy expresses carelessness, laziness and sensuality. Handwriting, not forceful as you would expect, but overstimulated. Walk, indifferent shuffling gait, swinging arms. Hearing, normal. Smell, decreased. Articulation, of negro. Voice, of negro. No marks on the body, except a few tertiary syphilitic scars on the lower extremities and a few small scars of cuts on the fingers. Muscular system, well developed. A small external oblique inguinal hernia on the right side. Is hyperesthetic everywhere, possibly due to overstimulation. Length of arms, 2 inches longer than average in proportion to body.¹ Length of fingers, long. Length of feet, 12½ inches.

2. Winkler, C., and van der Platts, J. D.: *Geneeskundige Bladen* 5-6, 1895.

3. Berends, A. G.: *Eenige schedelmaten van Recruten en Moordenaars Geneeswundige Bladen*, 1896.

Claims to have talent for playing pool. Taste, seems altered. Patellar reflex, right exaggerated. Intensity and duration of attention, good. Quality of brain, necessarily low.

Measurements of the Head.—No scars or marks of any kind. Scalp freely movable everywhere.

	Of Head During Life (inches)	Of Skull (inches)
Circumference	23	21 1/4
Occipito-frontal	16	13 1/4
Inferior frontal	12 1/2	11 1/2
To processus zygomaticus ossis frontalis.....	3 1/2	3 1/4
Mid frontal	12 1/2	11 1/2
Superior frontal	12 3/4	11 1/4
Posterior frontal	14	11 3/4
To tuber frontale.....	4 3/4	4 1/4
Anterior parietal	14	12
Posterior parietal	14	11 3/4
Occipital	12 1/4	9 1/2
Cerebellar	10	8 1/4

DIAMETERS

Longitudinal	7 1/4	7
Inferior frontal	3 5/8	3 3/4
Superior frontal	4	4 1/5
Mid temporal	5 5/8	5 1/4
Posterior temporal	5 1/4	5 1/8
Biparietal	5 3/4	4 3/4

Inspection of the Body After Death and Removal of the Brain, June 30, 1910.—The body was received June 30, 1910, and identified in the presence of the following gentlemen: Officer T. M. Frace, Dr. B. Pherrin, my former senior assistant Mr. W. Jackson, my present senior assistant Mr. R. W. Smith, and my junior assistant Mr. W. H. Betts, and the brain removed and placed in solution in their presence. It was noted at the time that the scalp was very thick and that the pericranium was closely adherent to the flat bones of the skull, that the latter was about one inch thick at the inion and that there were no pathologic lesions to be found within the cranium. The entire body was inspected closely, but nothing added to the antemortem findings and the measurements of the head were reviewed carefully. The body was embalmed with special care and made ready for dissection.

Dissection of the Body.—Whereas, Lombroso states that anomalies are most frequent in male criminals, I was naturally much interested in the number and kind of anomalies found during a careful dissection of the body and from the following list it can be seen that they surpass the average greatly. Guerra states that he found fourteen anomalies of arteries in eighteen criminals, against four in twelve normals.

Head and Neck: No anomalies were noted here, except well-marked tendinous intersections in the depressors of the os hyoideum. The muscles and the fascia colli of the posterior part of the neck were enormously developed. The cervical portion of the vertebral column was not broken at any place and the ligaments of the atlas and axis were all intact, as was also the odontoid process of the latter. The skull was removed and prepared for future study.

Right Upper Extremity: 1. No cephalic vein. 2. The median nerve formed a distinct connection with the musculo-cutaneous nerve. 3. No superficial radial vein. 4. The brachial artery divided at the upper one-third of the arm. 5. The superficial palmar arch was not complete. 6. The origin of the musc. extensor ossis metacarpi pollicis was from

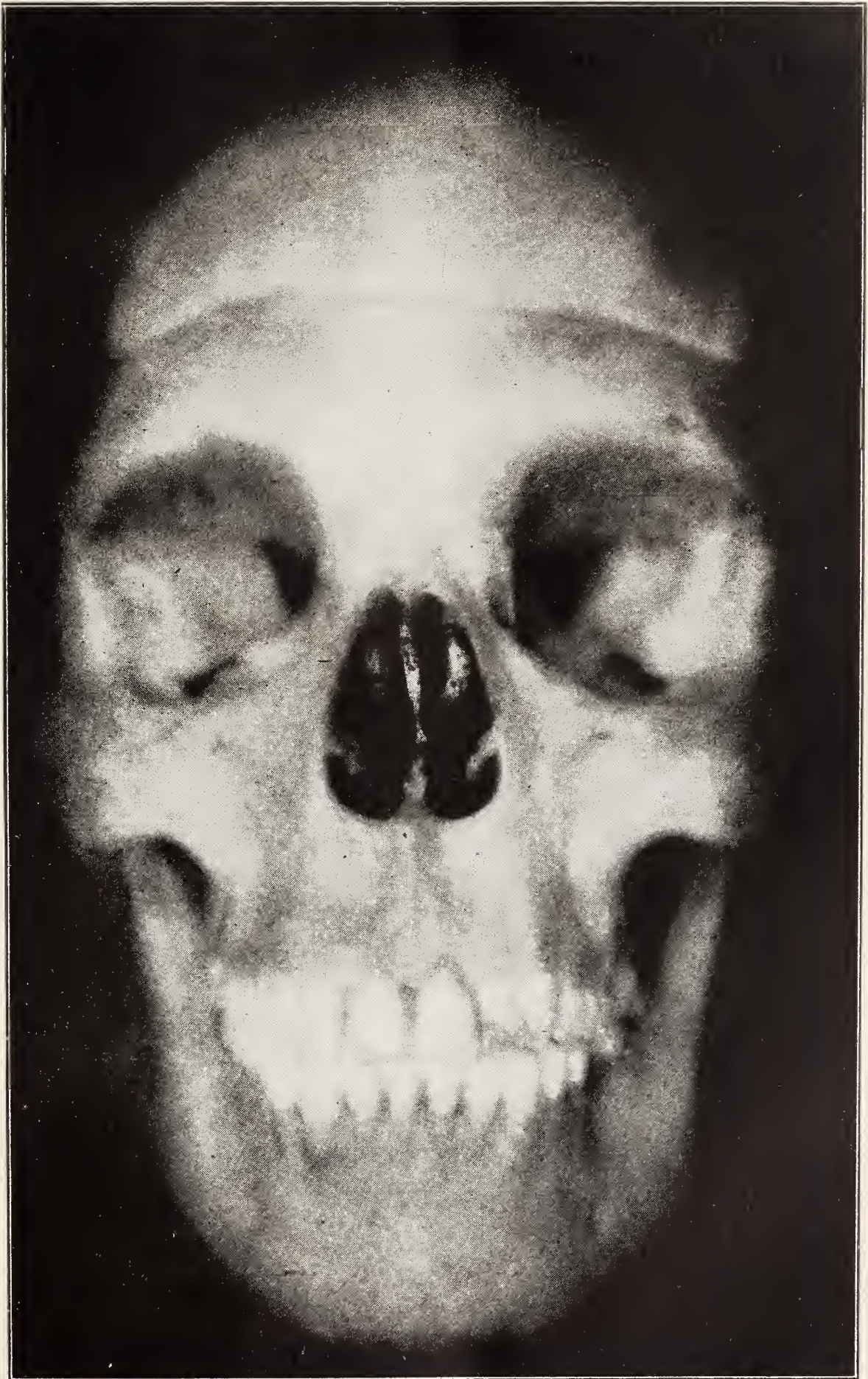


Figure 1.

the upper half of the outer surface of the radius. 7. The musc. extensor indicis gave a well-developed slip to the middle finger.

The Left Upper Extremity: 1. No superficial median vein. 2. The internal cutaneous nerve divided in the axillary region and formed a distinct loop through which passed the axillary vein. Its lower portion formed a nerve 2 inches in length which divided into an anterior and a posterior branch. 3. The musc. extensor indicis gave off a slip to the middle finger. 4. The superficial palmar arch was complete but was located about 1/4 inch too far proximal.

The Lower Extremities: The same on both sides. 1. The musc. flexor longus digitorum had three tendons of insertion instead of four. 2. No external malleolar branch of the anterior tibial artery, but a branch from the anterior peroneal took its place. 3. The musc. peroneus tertius had two tendons for insertion instead of one. 4. The left deep external pudic vein passed partly into the common femoral vein and partly through the inguinal canal into the external iliac vein.

The Thorax: 1. A bilateral musc. sternalis brutorum.

The Belly: 1. An embryonal type of omentum majus. 2. A V-shaped transverse colon on account of it being pulled downward by the right border of the omentum majus, which formed the contents of the small external oblique inguinal hernia on the right side and was anchored there. 3. A very large cecum. 4. The appendix 3 1/2 inches long, curved on itself and hanging downward into the pelvis. 5. The ascending portion of the duodenum was exposed. 6. A very large thick musc. suspensorius duodeni. 7. A large retroduodenal fossa. 8. A sigmoid flexure only 2 inches in length. 9. A right inferior accessory renal artery. 10. The cystic and hepatic bile ducts remained separate until 3/4 inch from the papilla of Vater. 11. Left renal artery enters hilum of kidney anterior to renal vein. 12. No spermatic artery on either side.

The Skull: I shall now name the most common anomalies found in the skulls of male criminals in the order of their frequency and will mark the ones found in Junkins with a capital J.

	Per Cent.		Per Cent.
Large sinus frontales.....	62	J.	
Wormian bones.....	59	In female homicides.....	76
Very large parietal and tem-			
poral eminences.....	43	J.	
Plagiocephaly	42	In normal cases.....	17.2
		In delinquents	28.8
		Among homicides.....	44
		Among prostitutes	22
Very large mandible.....	37	J.	
Total or partial absence of sutures	37	J.	
Receding or narrow forehead...	36	J.	
Prominent (prognathous) jaw..	34		
Cranial sclerosis.....	31	J.	
Prominent cheekbones.....	30	J.	
Deep canine cavities.....	21	J.	
Anomalous teeth	14		
Enormous pterygoid apophysis..	12		
Presence of frontal suture.....	12		
Irregular foramen occipitale mag-			
num	10		
Epipteric bones.....		J.	

We can readily see the significance of these anomalies, even though the narrow forehead and the prominent cheekbones are looked upon as racial characteristics (it still leaves seven anomalies out of sixteen examined for), if it is remembered that Kurella,⁴ while examining 830 skulls of criminals guilty of serious offences, found that 77 per cent. showed more than three anomalies and that 43 per cent. showed more than five anomalies. Ferri⁵ states that anomalies are frequent in female criminals but that they are three or four times more frequent in male criminals. Prostitutes, 5.5; thieves, 4.2; homicides, 4.1; infanticides, 4.0.

Total weight of the skull, 1,067 gm. Weight of the mandible, 157 gm. cranial capacity, 1,416 c.c. Cephalic index, 77, mesaticephalic. Height index, 70, orthocephalic. Facial index, 95, leptoprosopic. Orbital index, 85, mesoseme. Gnathic index, 100, mesognathic. Palatal index, 71.

The thickness of the skull was a little above the average, especially at the inion, where it was about one inch thick. The parietal bones were also thick, especially at their medial borders, and no trace was left of the sutura interfrontalis and the sutura sagittalis. Close inspection of the parietal bones in this case disclosed the possibility of their development from four centers, one for each of the parietal eminences, one in the anterior part of the sutura sagittalis one inch posterior to the center of the sutura coronalis, and a fourth one in the sutura sagittalis a half inch anterior to the center of the sutura lambdoidea. The following points speak for the possibility of this condition: 1. Absolutely no trace of the sutura sagittalis existed. 2. Absolutely no trace of the foramen parietale existed. 3. The bone is thickest near the median line, especially near the lambda. 4. The osseous radiations can be seen to extend from the last two centers mentioned. The ossification of the sutura coronalis was much farther advanced than that of the sutura lambdoidea, especially internally, and even the sutura squamo-parietale was fairly well ossified. The impressions (*foveola granularis Pacchioni*) caused by the Pacchionian bodies were normal in number, but were most marked near the bregma and the lambda. The nasal bones were very small and the left was about twice the size of the right. Plagiocephaly was not marked and the processus retromastoideus of Waldeyer was present on the left side and gave attachment to the musc. obliquus capitis superior.¹¹ Scaphocephaly was fairly well marked. The groove for the posterior end of the sinus sagittalis superior passed distinctly into the groove for the sinus lateralis dexter and the sulcus sigmoideus ossis temporalis came farthest forward on the right side.⁶ Depressions for the gyri of the lobus frontalis were most numerous on the left orbital plate. This cranium is one of the heaviest in my collection as can readily be seen by comparing its weight with that of Chester Tyler's skull, 782 gm., the murderer of Dr. Failer of Newton, and that of Billy Arholt, 910 gm., a Chicago holdup man. This enormous weight is partly explained by

4. Byrnes (Inspector): Professional Criminals of America.

5. Ferri, E.: Criminal Sociology.

6. Hoeve, H. J. H.: The Pars Sigmoidalis Sinus Lateralis and Its Relation to the Processus Mastoideus, Laryngoscope, November, 1909.

the coarseness of the bones of the rest of the body and even the weight of the occipital region can be explained by the development of ridges and tubercles for the attachment of the powerful muscles of the back of the neck, but the thickness of the parietal bones and the weight of the mandible is remarkable. I have seen thick parietal bones in many instances and may say that ordinarily at the age of 38 or later the upper half of these bones increases in thickness. At this time the shape of the cranial cavity is altered but the shape of the exterior is not. The diploe of these bones is increased at this time and their external table is much thinner than that of the os frontale.

Junkins had a large cranial capacity for a negro, but 104 c.c. smaller than that of a white athlete (1,520 c.c.) of his build and size, whose skull is also in my collection. When compared with the cranial capacity of Chester Tyler, 1,353 c.c., he excels by 63 c.c. The main average capacity for white males is given by Welcker,⁷ as 1,450 c.c., a maximum capacity of 1,790 c.c., and a minimum capacity of 1,220 c.c. Junkins' cranial capacity remains within the limits of the average given for skulls of negroes and Chinese, 1,350 c.c. to 1,450 c.c. The cephalic index shows the probability of an admixture of white blood, as it usually is found to vary between 75 and 80 (*mesaticephalic*) in Europeans and Chinese, and as it is mostly found to be below 75 (*dolichocephalic*) in the native Africans. The orbital index also suggests white blood admixture, as it should have been below 84 (*microseme*), which is usual in negroes. The gnathic index is not quite high enough, as in the Chinese and Japanese it is mostly between 98 and 103 (*mesognathous*), whereas in negroes it is mostly above 103 (*prognathous*).

The thickness of the skull when not pathologic is of no special importance, as all kinds of variations are found in this respect and I mostly expect a man with heavy bones to have a thicker skull than one with light bones, but the fusion of the two parietal bones in the sagittal line of the skull or their development from four centers, as the case may be, certainly has some special bearing. Even if the sutura sagittalis was present at a certain time I regard the ossification of this portion of the cranium to the extent which was found here as having taken place entirely too early. Ordinarily the ossification of the sutures commences, as in the long bones, at the ends of the suture last ossified near the fontanelles and occurs first in the sutura sagittalis on the inside of the cranium at about the thirteenth year. The process has usually commenced on the outside at the age of 40 years, but at this time the sutures on the inside should still be distinct. At the age of 60, ossification can be expected to be complete on the inside and on the outside at the age of 80. There seems to be no special call for the enormous deposit of bone in the medial part of the vault of the skull as shown in this case. We have here a scaphoid condition which is present in many dolichocephalic skulls and which causes the gyri of the brain to develop mainly in an antero-posterior direction. It is well known that this holds true especially for dolicho-

7. Welcker, H.: Untersuchungen über Wachstum und Bau des Menschlichen Schädels, Leipsic, 1862.

cephalic skulls, and as shown by Calori,⁸ Meyer,⁹ Meynert¹⁰ and Rudinger,¹¹ the gyri type of the brain changes; here we find clear-cut sagittal gyri and transverse and oblique gyri which have increased their obliquity. This is a great contrast from the type of gyri found in the brain of brachycephalic skulls, where the sagittal gyri develop numerous lateral extensions and where the transverse and oblique gyri obtain a much more transverse direction, complaining, as it were, to the eye of being prevented by pressure from growing forward and backward. In brachycephalics I have frequently found the gyri type of brachycephalics in cases of early ossification of the sutura coronalis and the sutura lambdoidea and in dolichocephalics the gyri type of dolichocephalics in cases of too early ossification of the sutura sagittalis, and in Junkins' case we



Figure 2.

have the gyri type of a dolichocephalic, caused by an early obliteration of the sutura sagittalis or an irregularity in the embryonal development of the parietal bones, in a mesaticephalic.

I wish to state distinctly that many similar cases can be recognized in young individuals after the sixteenth year, and whereas there is no doubt but what conditions of this kind have a restricting influence on

8. Calori, L.: Del cervello nei due tipi brachicefalo e dolicocefalo italiani Memorie dell'accad. delle sc. di Bologna, 2 ser. T. X. Fasc. 1, 1871.

9. Meyer, L.: Ueber den Einfluss der Schädelform auf die Richtung der Grosshirnwindung, Med. Centralbl., 1876, No. 43.

10. Meynert: Vorläufige Mittheilungen über die Ursachen des Zustandekommens der Grosshirnwindungen, Anzeiger d. Gesellsch. d. Wiener Aertze, 1876, No. 29.

11. Rudinger: Vorläufige Mittheilungen über die Unterschiede der Grosshirnwindungen nach dem Geschlecht beim Foetus und Neugeborenen, München, 1877.

the development of the gyri, I would recommend linear craniotomy, unilateral or bilateral as can be determined by measurements, comparing both sides of the skull.⁴⁶ In Junkins' skull even the sutura squamoparietalis is fairly well ossified and that is supposed to be the last suture in the cranium to ossify under normal conditions.

Professor Waldeyer¹² of Berlin found a processus retromastoideus in only thirty-six out of 350 Africans, and in this case it seems that Le Double's¹³ explanation of the occurrence of this tubercle is correct, namely, that it is caused by a strongly developed musculature of the neck, as the other eminences giving attachment to the musc. capitis posticus major and the musc. capitis posticus minor were also larger than the average and gave a solid attachment to the enormously developed muscles. To what extent the musculature of the back part of the neck was developed can be judged by comparing the cerebellar measurement during life and of the skull.

The mandible is heavy compared with other mandibles, as for instance Chester Tyler's, 116 gm., and Billy Arholt's, 83 gm. These weights correspond fairly well to the statement of Manouvrier, who gives the weight of the average Parisian criminal jaw as 80 gm., and that of murderers as 94 gm., showing that the mandibles of murderers are heavier. De Bierre gives the average weight of the normal mandible as 69 gm. and that of criminals as 95 gm., and it seems to me that the statement that abnormally heavy jaws in criminals are mostly found in those inclined to deeds of violence is correct.

The Examination of the Brain and Its Membranes.—Total weight, 1,438 gm. Weight of arachnoid, pia and vessels, 20 gm. Weight of midbrain, cerebellum, pons and medulla (section at upper level of midbrain), 195 gm. The weight of the separate halves was not reliable as the section passed to the left of the median line. The arachnoid and pia were not abnormal at any place and showed no special thickened areas.

The Vessels.—The left internal carotid artery was one-third larger than the right. The antero-inferior cerebellar artery was absent on the left side but very large on the right side. The left superior cerebellar artery supplied the internal one-third of the superior surface of the left cerebellar hemisphere, whereas the right supplied the internal one-half of the upper surface of the right cerebellar hemisphere. The left posterior cerebellar artery supplied the posterior one-half instead of the posterior three-quarters of the basilar surface of the lobus temporalis and the right supplied the posterior two-thirds of the corresponding surface on that side. The left posterior choroid artery was much smaller than the right. The left anterior and posterior temporal branches of the posterior cerebral artery were much smaller than the corresponding branches of the right side. The left anterior cerebral artery was much better developed than the right. The left great anastomotie vein of Trolard was much

12. Waldeyer, W.: Der Processus retromastoideus, Abh. der Konigl. Preuss. Akademie d. Wissenschaften, Berlin, 1909.

13. Le Double, A. F., and Dubreuil-Chambardel, L.: Note sur le Processus retromastoideus, Compt. rend. de l'Anatomistes, Septième Réunion et premier Congrès fédératif international d'Anatomie, Genève 6-10 Aout, 1905.

larger than the right but received fewer tributaries, and the same condition was found in connection with the posterior anastomotic vein of Labbe. The Vv. cerebri superiores were five in number on the left and four on the right side. They were much larger on the left side and especially well marked posteriorly.

The brain of Junkins falls within the limits of medium-sized macrocephalic brains, which includes all male brains weighing from 1,450 to 1,250 gm. The weight of the pia and its vessels should be about 45 gm., according to Broca,¹⁴ between the twentieth and thirtieth year, and was much less in Junkins.

Junkins was right-handed, so that the left internal carotid artery being one-third larger than its fellow of the opposite side may be looked upon as normal, but what seems most peculiar is that all the other arteries of the left side, with the exception of the anterior cerebral, supplied less territory than their fellows of the opposite side and the actual blood supply of the left temporal lobe and the left cerebellar hemisphere was much less than that of the right. With the larger veins it seems just the opposite, the ones of the left side being the best developed. The left parietal region and the antero-internal portion of the left hemisphere seemed better supplied with vessels than the rest of the hemisphere and I believe I am safe in stating that these regions must have required more nutriment than the rest of the hemisphere and were consequently of a higher functional development. I am convinced that a highly developed part of the brain as far as function is concerned has a relatively highly developed blood-supply and vice versa, and therefore I believe that the left temporal lobe was of low development.

For the purpose of obtaining a better idea of the value of measurements taken in this case I have arranged the measurements of the brain of the lately deceased eminent Russian Scientist, Professor Mendelejew, as given by Bechterew,¹⁵ alongside of those of Junkins.

MEASUREMENTS OF THE HARDENED BRAIN COMPARED WITH THE SAME OF MENDELEJEV

	<i>John Junkins</i>	<i>Mendelejew</i>
Weight	1,438 gm.	1,571 gm.
Height of brain.....	117 mm.	111.5 mm.
	Measured from posterior border of pons to highest point in parietal region.	
Breadth of brain.....	127 mm.	145 mm.
	Taken between the two ventral ends of the two sulci centrales.	
Bitemporal diameter	137 mm.	156.5 mm.
	Taken between the two most prominent points of the lobi temporales.	
Biparietal diameter	127 mm.	147.5 mm.
Bifrontal diameter	101 mm.	130 mm.
	Taken between the gyri frontales inferiores.	
Length of Corpus callosum.....	77.78 mm.	85 mm. (Note 45)
Length of lobus frontalis.....	38.1 mm.	38 mm.
	Measured from the genu corporis callosi.	
Length of hemisphere.....	63.5 mm.	68 mm.
	Measured from the splenium corporis callosi to the polus occipitalis.	
Angle formed by cerebrospinal axis and fronto-occipital line.....	64	67

14. Donaldson, H. H.: The Growth of the Brain, 1905.
15. von Bechterew, W.: Das Gehirn des Chemikers, D. J. Mendelejew, Anat. und Entwicklungsgeschichtliche Monographien von Prof. W. Roux, Heft 1, 1909, Leipsic.

	<i>John Junkins</i>		<i>Mendelejew</i>	
	HEMISPHERES		HEMISPHERES	
	Left	Right	Left	Right
Height	107.95 mm.	Same.	108 mm.	110.5 mm.
Length	177.8 mm.	Same.	193 mm.	Same.
From polus frontalis to polus occipitalis.				
Length of lobus frontalis.....	158.75 mm.	165.1 mm.	125 mm.	127 mm.
From central end of sulcus centralis (Rolandi) to polus frontalis.				
Length of lobus parietalis.....	50.8 mm.	Same.	62 mm.	70 mm.
From central end of sulcus centralis (Rolandi) to pars externa fis. occipitoparietalis.				
Length of lobus occipitalis.....	34.45 mm.	Same.	49 mm.	51 mm.
From pars externa fis. occipitoparietalis to polus occipitalis.				
Height of lobus temporalis.....	34.45 mm.	50.8 mm.	47 mm.	55 mm.
Upper point close behind lower end of gyrus post-centralis.				
Length of sulcus centralis (Rolandi).....	95.25 mm.	101.6 mm.	93 mm.	92 mm.
Breadth of gyrus centralis posterior—				
Above	3.17 mm.	6.35 mm.	20 mm.	12 mm.
Below	31.7 mm.	6.35 mm.	.....	.....
Breadth of gyrus centralis anterior—				
Above	9.52 mm.	19 mm.	12 mm.	15 mm.
Below	12.7 mm.	12.7 mm.	12 mm.	15 mm.
Impressio torcularis (Retzii).....	Slight.	Well marked.	Absent.	Absent.
Antero-posterior curve	260 mm.	254 mm.	.....	.....
Antero-posterior diameter	177.8 mm.	171.45 mm.	.....	.....
Anterior curve (#).....	152.4 mm.	146.05 mm.	.....	.....
Middle curve (#).....	53.17 mm.	63.5 mm.	.....	.....
Posterior curve (#).....	50.8 mm.	34.45 mm.	.....	.....

(#) The anterior curve extends from the polus frontalis to the point where the sulcus centralis (Rolandi) strikes the margo supero-medialis. The middle curve extends from the latter point to the place where the fissura occipito-parietalis strikes the margo supero-medialis. The posterior curve extends from the latter point to the polus occipitalis.

MACROSCOPIC EXAMINATION OF THE BRAIN

It would be impracticable to give a detailed description of each sulcus and gyrus in this paper and I will therefore present only the most marked variations from the normal found in this case. The cerebellum was well covered by the occipital lobes. The gyri of the postero-superior and posterior parts of the lobus frontalis were very large and coarse and in addition to the antero-superior part of the lobus parietalis and the anterior part of the lobus temporalis formed the coarsest part of the hemisphere. The posterior part of the gyrus frontalis superior was especially coarse in both hemispheres. The lobus parietalis was largest on the left side. The medial surface of the anterior end of the lobus frontalis, of the lobus parietalis and also the tentorial surface of the latter, showed a few small additional sulci. The occipital lobes seemed smaller than normal and the posterior part of the left when pulled backward and downward presented the appearance of a rudimentary portion which was folded over the rest in an upward and forward direction. The temporal lobes were large and coarse and presented peculiarities which will be mentioned later. The insula was slightly exposed, especially on the right side. The lower end of the sulcus centralis (Rolandi) formed a half circle with its concavity backward, and the gyrus transitivus found within this sulcus was very large. The sulcus cinguli was double on the left side and its posterior part incised the margo superomedialis distinctly $\frac{1}{4}$ inch posterior to the upper end of the sulcus centralis (Rolandi). The anterior part of the sulcus frontalis medius seemed to represent the anterior part of the sulcus frontalis superior. The sulcus paramedialis formed a large well-marked sulcus on the left and consisted of three pieces on the right side. The gyrus frontalis superior

seemed shorter than normal and its anterior part was formed by the gyrus frontalis medius on both sides. The left gyrus frontalis medius seemed to form the entire anterior portion of the lobus frontalis to the



Figure 3.

extent of an area $1\frac{1}{2}$ inches square, whereas the right formed a similar area of about two-thirds that size. The right pars opercularis was very large and about one-quarter inch larger than the left. The left sulcus

postcentralis superior joined the upper part of the sulcus centralis (Rolandi). The left ramus horizontalis sulci interparietalis indented the margo supero-medialis but was normal on the right side. The gyrus occipitalis superior lay $\frac{1}{8}$ inch beneath the surface and seemed to be rudimentary. This latter condition is similar to that shown by Schafer¹⁶ and F. P. Mall,¹⁷ except that this does not seem to be an annectant. The left gyrus supramarginalis and gyrus angularis were very large. The left gyrus centralis posterior was fully $1\frac{1}{4}$ inch wide at its lower part and tapered above; the right was $\frac{1}{4}$ inch in diameter or about one-third the size of the gyrus frontalis anterior. The gyrus occipitalis lateralis formed nearly the entire lobus occipitalis instead of a little less than the inferior half. Two annectants were found within the left sulcus temporalis superior, similar to the large annectant within the sulcus centralis (Rolandi). The left sulcus temporalis medius consisted of two parts and incised anteriorly the polus temporalis and posteriorly the margo infero-lateralis. The gyrus temporalis superior was $4\frac{1}{4}$ inches in length and $\frac{1}{2}$ inch broad on both sides, the posterior part of the right being $\frac{3}{4}$ inch wide. The left gyrus temporalis medius was $4\frac{1}{2}$ inches long and 1 inch wide instead of $\frac{1}{2}$ inch, and the right one was $4\frac{1}{4}$ inches long and $\frac{3}{4}$ inch wide, except at its posterior part, where it was $1\frac{1}{2}$ inches wide. The gyrus temporalis inferior was shorter but much broader than normal. The temporal operculi were large but the right were the largest. The gyri breves of the insula were well marked but very coarse. The uncus was well marked but most prominent and coarsest on the right side. In order to shorten this paper materially, I must abstain from giving measurements of the sulci and gyri and be content to say "as compared with the average measurements taken from fifty brains¹⁸ the great variations in that line point distinctly to the left parietal and the frontal and temporal regions."

Pansch¹⁹ mentions the sulcus frontalis inferior, the sulcus centralis, the sulcus interparietalis, the sulcus temporalis superior, the sulcus olfactorius, the fissura occipito-parietalis and the sulcus calloso-marginalis as primary sulci, which appear in the sixth month of fetal life and have always the same appearance and characteristics in their main parts. Sernoff²⁰ states that there are only five and takes exception to the sulcus frontalis inferior and the sulcus interparietalis, and states that the sulcus precentralis inferior is constant and that the sulci frontales superior et inferior et interparietalis are mostly present and that the presence and number of the rest is not constant and varies greatly. In connection with these facts I have found irregularities of primary sulci in the parietal and temporal regions and of secondary sulci in the frontal regions, as can be varified by a close examination of the accompanying photo-

16. Quain's Anatomy, 1902, iii, part 1, p. 138.

17. Mall, F. P.: Am. Jour. Anat., ix, No. 1, p. 20.

18. Hoeve, H. J. H.: A Manual of Dissection and Practical Anatomy of the Head and Neck, Des Moines, 1910.

19. Pansch, A.: Ueber die typische Anordnung der Furchen und Windungen auf den Grosshirnhemisphären des Menschen und der Affen, Archiv. f. Anthropologie, Bd. 3, S. 227; *ibid*, Bemerkungen über die Faltungen des Grosshirns und ihre beschreibung, Archiv. f. Psychiat., Bd. 8, Hft. 2, 1877.

20. Sernoff, D. N.: Individuelle Typen der Hirnwindungen des Menschen, Moskau, 1877.

graphs. In connection with secondary and tertiary sulci we may quote Quain, who states that there seems to be distinct evidence to show that complexity of convolutions generally goes hand in hand with intellectual development of the individual. In many cases the brains of men of known intellectual capacity have been examined, complexity due partly to the development of secondary sulci and partly by the more curved course taken by the principal sulci, has been decidedly and in some instances extraordinarily marked. Indeed, in some instances a relationship seems to have been apparent between a particular type of mental development and the special part of the brain. If we examine the photographs closely we find that Junkins' brain represents a comparatively simple type and that tertiary sulci are marked in very few places. Knowing that the primary sulci have a typical arrangement, that the secondary and tertiary sulci vary the more, the later they appear, that they are especially numerous in brains with many gyri, and knowing from Pansch¹⁹ that the deeper a sulcus the greater its age, I do not hesitate in stating that the frontal and parietal regions of this brain were very late in developing (maturing) and that the temporal lobe had as yet not reached its full complexity.

Benedickt²¹ has pointed out that the human retrograde brain was theromorphic; that is, simulated in its surface markings the brain of a carnivorous animal on account of the presence of four frontal gyri, which condition is brought about by the presence of the sulcus frontalis medius. This condition is present in the brain under consideration, but the human brain in its course of development does not pass through a carnivorous phase, so this can have no weight.

The partially uncovered condition of the insula is normal in the ungulates, as there it is occasionally found entirely uncovered. Parker²² has found it uncovered in nine out of thirteen negroes and in our dissecting room I have found it uncovered in six out of fourteen negroes.

The lower part of the sulcus centralis (Rolandi) being turned backward, reminds of a similar normal condition in the ape,²³ and the peculiar formation of the upper part of the lobus occipitalis recalls to mind the operculum occipitale (Gratiolet) as found in the ape. This latter condition is found in 4 per cent. of male convicts (Tenchini).

The upturned end of the left sulcus cinguli incised the margo superomedialis in a manner similar to the sulcus cruciatus of the carnivoræ, and this same condition was present in the right hemisphere.

The sulcus paramedialis was enormously marked in this case and Cunningham's statement that this sulcus is deeper and better marked in the higher types of human brains seems to be of no value. It may never be developed in the ape, but in this case it certainly is well developed in a very low type of human being.

The enormous size of the anterior end of the gyrus frontalis medius is difficult to explain, but I believe I am safe in stating that in this case

21. Benedickt, M.: Raubthiertypus am menschlichen Gehirm, Med. Centralbl., 1876, No. 52.

22. Parker, A. J.: Cerebral Convulsions of the Negro, Proc. Acad. Nat. Sc., Philadelphia, 1878.

23. Schwalbe, G.: Lehrbuch der Neurologie, 1881.

it was developed at the expense of the anterior end of the gyrus frontalis superior.

According to Lombroso,²⁴ anomalies of convolutions are most frequent among the male criminals, and here we may mention the enormous size of the gyrus angularis sinister, the peculiar triangular shape of the gyrus postcentralis sinister with a very thin pointed upper end and the very narrow gyrus postcentralis dexter, etc.

We can readily appreciate that there exist great variations between the course and relative development of the fissures and convolutions of the two hemispheres of the same brain, but according to Quain this does not seem to be of any special value and by studying the writings of Huschke,²⁵ Rudinger,¹¹ Sernoff,²⁰ Pansch,¹⁹ Giacomini,²¹ Eberstaller²⁷ and Cunningham²⁸ one receives the idea that there is no constant relationship between any of the variations found to occur, and race, age, sex and occupation and the general idea seems to force itself to the surface that ultimately only racial differences can be established which show that the brain of other races than the European have an average complexity below that of the latter, Schwalbe.²³ Only of late have we received a little more light on this question, as Campbell²⁹ in 1905, and especially Brodmann³⁰ in 1902 and 1907, pointed out histologic differences between different areas of the cortex, and one can readily appreciate that in many instances the shape and size of a gyrus will be affected by the number, location and distribution of its constituent neurones, as through Bolton³¹ we learn that the relative areas of Brodmann's maps differ greatly in different individuals as shown by him in illustrations of the extent of the visuo-sensory area in six cases. At this time the function of a few of the anatomically differently constituted areas of the pallium is fairly well understood, but as yet we are unable to explain why in a case like Junkins' the gyrus temporalis medius is of such enormous size. It seems to me that Gall³² and Spurzheim³³ were right in exchanging the scalpel for psychologic anatomy, after having arrived at similar conclusions based on different ground, but let us not forget that areas differing functionally must differ anatomically.

Professor Benedict³⁴ of Vienna recognizes a type of criminal brain which shows extensive connections between the main fissures and sulci,

24. Lombroso: *The Female Offender*.

25. Huschke, E.: *Schadel, Hirn und Seele des Menschen und der Thiere nach Alter, Geschlecht und Race*, Jena, 1854.

26. Giacomini, C.: *Guida allo studio delle circonvoluzione cerebrali dell'uomo*, Torino, 1878.

27. Eberstaller, O.: *Zur Oberflächenanatomie der Grosshirn-Hemisphäre*, Wiener med. Blätter, 1884.

28. Cunningham, D. J.: *The Complete Fissures of the Human Cerebrum and Their Significance in Connection with the Growth of the Hemisphere*, Jour. Anat. and Physiol., 1890, xxiv; *ibid*, *Contributions to the Surface Anatomy of the Cerebral Hemispheres*, Dublin, 1892.

29. Campbell, A. W.: *Histol. Studies on the Localization of Cerebral Function*, Cambridge, 1905.

30. Brodmann, K.: *Beiträge zur histologischen Lokalisation der Grosshirnrinde*, Jour. f. Psychol. u. Neurol, 1902-1907; *ibid*, *Die Cortex Gliederung des Menschen*, Bd. 10, 1907.

31. Bolton, J.: *The Exact Histological Localization of the Visual Area of the Human Cerebral Cortex*, Phil. Trans., 1900, B. 191, p. 165.

32. Gall, F. J.: *Reserches sur les fonctions et les proprietes du syst. nerveux cervicale*, Paris, 1828.

33. Spurzheim, J. G.: *The Physiognomical System*, London, 1815.

34. Benedict, M.: *Anatomical Studies on the Brains of Criminals*, Vienna, 1881.

and I felt it my duty to study the brain under consideration from this standpoint on account of the following statements made by Benedict:

1. The brain of the lower human races, entire or in its various parts, corresponds more or less to the confluent fissure type. 2. Brains of inferior individuals certainly approach as a rule the confluent fissure type. 3. There is no doubt whatever, that this confluent fissure type is developed in embryo the same as found in the mature adult brain. Even Rudinger¹¹ states that in the fetal stage of existence the brachio and dolichocephalic brains exhibit their characteristic differences. Benedict also states: If we imagine the fissures to be watercourses it might be said that a body floating in any of them could enter almost all of the others. He also mentions that a great number of the annectents are absent. He has tabulated the individual connections formed by the individual fissures and we will now proceed to examine Junkins' brain accordingly.

Lobus Frontalis.—1. The sulcus centralis (Rolandi) the sulcus centralis anterior and the sulcus centralis posterior show a great inclination to unite with the fissura lateralis cerebri (Sylvii). Left, present. Right, present.

2. One or the other of the sulci frontales is often connected with the sulcus centralis (Rolandi). Left, present. Right, absent.

3. The sulcus paramedialis is often deep and long, in which case it often penetrates deeply into the upper part of the gyrus centralis anterior. Left, present. Right, small deep sulcus.

Lobus Parietalis.—1. The sulcus interparietalis rises frequently out of the fissura lateralis (Sylvii) and blends occasionally with the upturned end of the latter. Left, incomplete. Right, no.

2. There often exists a transverse connection between the sulcus interparietalis and the sulcus centralis (Rolandi). Left, no. Right, no.

3. The sulcus interparietalis unites with the sulci temporales. Left, no. Right, with one.

4. The ramus occipitalis sulci interparietalis connects with the sulcus occipitalis transversus, the fissura occipito-parietalis and the fissura calcarina. Left, present. Right, only with sulcus occipitalis superior.

Lobus Temporalis.—1. The sulcus temporalis superior connects with the fissura lateralis cerebri (Sylvii) by transverse fissures. Left, not complete. Right, present.

2. The sulcus temporalis superior may connect with the sulcus interparietalis or the sulci occipitales. Left, not complete. Right, present with both.

3. The first and second temporal sulci communicate with each other and send out a connection around the margo infero-lateralis to the fissura collateralis. Left, not complete. Right, present.

4. The lower occipital sulcus often connects with the fissura collateralis and the fissura calcarina. Left, no, incomplete. Right, no.

Medial Surface.—1. The sulcus cinguli connects with the fissura occipito-parietalis. Left, no. Right, no.

2. The sulcus centralis (Rolandi) penetrates deeply into the medial surface and is connected with the sulcus cinguli. Left, present, but does not connect. Right, present.

3. The fissura calcarina unites in an atypic manner with the fissura hippocampi. Left, does not unite. Right, does not unite.

4. The fissura hippocampi unites with the fissura collateralis. Left, present. Right, no.

According to Benedickt, there exist between the normal type with the typically separated fissures and the confluent fissure type manifold transitions, inasmuch as more or less of the annectent gyri are not developed at the surface but remain concealed as underlying annectent gyri (*plis de passage*) in the stricter sense. Benedickt emphasizes especially the absence of a great number of annectents and states that these brains differ from the school type. It is not a single deviation by itself which constitutes the characteristic of the type, but rather a general deviation. Those brains which exhibit numerous deviations from the school type and approach the confluent fissure type must be ranked under the head of the latter type and brains with few or isolated deviations from the school type must be considered as belonging to that type. From the foregoing it can readily be seen that it is impossible to speak of Junkins' brain as belonging to the confluent fissure type, as there are only six positive findings among the fifteen points each hemisphere was examined for and I would rather state that this brain deviated slightly from the school type. That Junkins was an inferior individual is certain, and according to Benedickt's own statement the brains of these individuals approach as a rule the confluent fissure type, so that I do not think it correct to classify the brain under consideration as a criminal brain according to Benedickt's findings. Furthermore, having inspected the brains of our average dissecting material, I necessarily arrived at a similar conclusion, as Giacomini, who states that the so-called criminal type of Benedickt is actually less frequently encountered in convicts than in those of ordinary persons. Having in mind the source of average dissecting material, knowing that it consists of the remains of those who have suffered complete shipwreck in life through a low grade of intelligence, imperfect motor development, or through vice, prostitution or drink so that they could not even procure the necessary means for their burial and also having examined the brains of some humans I knew before death to have acted perfectly rational, people who had good success in their line of pursuit and having found some perfect confluent fissure types among those, I am even more convinced of the truth of this statement.

Not having found an abundance of annectents, I cannot agree with Mingazinni (1895), who states: "That on account of annectents being more frequent in criminal brains, we had more reason to accept a type of confluent convolutions than fissures. I must admit that I have seen the gyrus cunei placed very superficial in three out of five criminal brains which seems to correspond to findings of Lombroso, Benedickt and Mingazinni and which, according to Mickle,³⁵ is a recognized sign of inferiority.

35. Mickle, W. J.: Atypical and Unusual Brain Forms, Jour. Mental Sc., July, 1896, p. 541.

MICROSCOPIC EXAMINATION OF THE BRAIN

Since Golgi published his chromate of silver method in 1873, a new impetus has been given to the histological investigation of the cortex by B. Lewis and H. Clark,³⁶ who published a paper on the motor area, and in 1896 by Dr. Roncoroni,³⁷ Professor Lombroso's assistant, who pointed out the disordered development of the central nervous system of criminals as shown by: 1. The absence or great reduction of the deep granular layer of the cortex. 2. The unusual prevalence of the large pyramidal and polymorphic cells. 3. The frequency of cells in the white matter. In 1900, Bolton³⁸ published a paper giving the histology of the visual area in detail. In 1902, Brodmann³⁹ published on the histologic localization of the cerebral cortex, and in 1905 Campbell²⁹ published his wonderful book on the histology of the cerebral cortex, which renders the identification of many parts of the cortex possible by histologic methods. In 1906, articles appeared by Turner,³⁹ Vogt⁴⁰ and Watson,⁴¹ which were of special importance, and in 1910 Bolton has proven histologic differences in the thickness of the layers of the cortex, due to disease or non-development. In addition, Bolton has given us a method for the micrometric measurement of the primary cell and fibre laminae of the cortex, the results of which are far more satisfactory than those obtained by macro- or micrometric measurements of gray matter as performed by other authors. Naturally, I found it advisable to measure the layers in Junkins' cortex and compare the results with the averages obtained by Bolton in different cases, and the results are given in the accompanying table. For a detailed description of technique I must refer to the original paper.

	Average Thickness		
	Visuo-Psychic Area.	Visuo-Sensory Area.	Prefrontal Region.
	mm.	mm.	mm.
Flat average	0.094	1.903	1.462
Apex average	1.937	1.788	1.536
Side average	1.743	1.825	1.729
Base average	1.757	1.880	1.454
General average	1.382	1.845	1.545

I have examined different areas of the cortex of Junkins' brain by Golgi's method, but was not able to demonstrate anything of special value.

I am indebted to Professor A. R. Robertson, our pathologist, for the examination he made of the brain tissue. He reports as follows:

An examination of the two pieces of tissue left with me for examination, one piece coming from the posterior part of the left gyrus frontalis superior and the other from the middle of the left gyrus temporalis inferior of the brain of

36. Lewis, B., and Clark, H.: The Cortical Localization of the Motor Area of the Brain, Proc. Roy. Soc., 1878, No. 185.
37. Roncoroni (Dr.): Arch. di Psichiatria, Fasc. 1-2, 1896, xvii.
38. Bolton, J.: A Contribution to the Localization of Cerebral Function, Brain, 1910, xxxiii, part 129.
39. Turner, J.: A Study of the Minute Structure of the Olfactory Lobe and Cornu Amonis, Brain, 1906, p. 80.
40. Vogt, O.: Ueber strukturelle Hirncentra, Verh. der Anat. Gesellsch., 1906, p. 74.
41. Watson, G. A.: The Pathology and Morbid Anatomy of Juvenile General Paralysis, Arch. Neurol., 1903, ii, 629.

John Junkins, shows histologically nothing of great interest. The cortical cells are quite well preserved. The nucleus is centrally situated and the protoplasm evenly stained. The neuroglia shows no increase. The vessels are very considerably dilated and the blood within them is partly laked. Throughout the tissue there is no evidence of old or recent injury or of inflammatory reaction. Histologically this tissue presents nothing abnormal.

Very sincerely yours,

A. ROCHE ROBERTSON.

FIBRE DISSECTION OF THE BRAIN

In 1908, I published a short article on fibre dissection of the brain,⁴² pointing out the facility of dissecting the large association bundles and a little later Professor Johnston⁴³ published a very able article on the same subject and arrived at similar conclusions as far as the utility of fibre dissection was concerned. In 1909, I published a more extensive article on fibre dissection,⁴⁴ which covered my method of procedure in detail and which mentioned especially the subsequent order in which the different bundles should be dissected. In 1910, my book⁴⁵ was published which in the section on the nervous system covers all that is necessary for the intelligent dissection and appreciation of the entire brain, especially in connection with the large interlacements formed by the different bundles. From the foregoing it can be seen readily that I could not abstain from submitting the brain under consideration to fibre dissection, although my desire was to keep the entire brain intact for more advanced histologic work. I therefore proceeded to prepare plaster casts of the hemispheres in order to save an exact copy of the gyri formation and its fissure type, and then I have only dissected the left hemisphere on account of Junkins being right-handed. The right one I shall report on in a future paper. To give a more comprehensive idea of the importance of the findings in this case I may say that my last class has dissected thirty-one hemispheres and that all the bundles and interlacements were found normal in location and relation in all of them except in two which were in a bad state of preservation. In connection with the left hemisphere of Junkins, I shall mention only the large association bundles as the rest of the fasciculi seemed to be normal in location and relations.

The Cingulum was normal in every respect.

The Fasciculus Occipito-Frontalis occupied its normal position, but was not well marked in its anterior part and was found fused with the posterior portion of the horizontal part of the fasc. longitudinalis superior. The anterior part of the bundle seemed to be replaced to a great extent by small association fibres forming connections between the gyri frontales superius et medius and extended centralward to the depth of one inch. The projection fibres passing through this region were well

42. Hoeve, H. J. H.: Revival of an Old Method of Brain Dissection, Proc. Iowa Acad. Sc., July 20, 1908, xv, 183.

43. Anatomical Record, ii, No. 8.

44. Hoeve, H. J. H.: A Modern Method of Teaching the Anatomy of the Brain, Anatomical Record, 1909, iii, No. 4, p. 247.

45. Mall, F. T.: On Several Anatomical Characters of the Human Brain, Am. Jour. Anat., February, 1909, ix, No. 1.

46. Christison, J. S.: Crime and Criminals, Chicago, 1900, p. 39. See photograph of Scott Price.

marked and coarse. A few fibres were given off from the bundle at the junction of its middle and posterior one-third which were joined by fibres from the anterior part of the cingulum and which passed forward around the corpus callosum, lateral to the cingulum and medial to the projection fibres in order to be distributed to the anterior and medial part of the orbital surface of the hemisphere. About $\frac{1}{2}$ inch anterior to the splenium corporis callosi the bundle was distinctly separated from the cingulum by a bundle of association fibres, which dipped centralward to the extent of $1\frac{1}{4}$ inches and formed connections between the posterior part of the gyrus cinguli and the precuneus. Posterior to the level of the splenium corporis callosi another association bundle was found which extended from before backward between the posterior part of the gyrus cinguli and the posterior part of the precuneus.

The Fasciculus Longitudinalis Superior formed a large coarse bundle about three times as thick as normal and was fused at the posterior part of its horizontal portion with the fasciculus occipito-frontalis. It seemed to form mainly connections between the posterior portions of the gyri frontales medius et inferius and the posterior part of the lobus temporalis and the lobus occipitalis. Instead of a delicate interlacement being formed between its anterior part and the projection fibres sending branches to all parts of the lobus frontalis, I found that the bundle lay mainly external to the projection fibres and posteriorly instead of an intricate interlacement between it and the fasciculus longitudinalis inferior the bundle lay mainly external to the latter and sent only a few fibres to the posterior part of the lobus temporalis, whereas most of them passed to the posterior and inferior parts of the lobus occipitalis.

The Fasciculus Perpendicularis (Wernicki) was not well marked.

The Fasciculus Longitudinalis Inferior consisted of two distinct bundles, which were joined in the anterior part of the lobus temporalis. The external one of the two was the longer and interlaced slightly with the posterior end of the fasciculus longitudinalis superior but did not interlace with the posterior end of the fasciculus occipito-frontalis. The internal bundle passed backward, upward and inward medial to the postero-superior part of the fasciculus longitudinalis superior and intermingled in this locality with fibres of the postero-superior portion of the lemniscus temporalis et occipitalis. The anterior end of the external bundle interlaced only slightly with the posterior end of the fasciculus obliquus fasciculi uncinati, whereas the anterior end of the internal fasciculus interlaced distinctly with it.

The Fasciculus Uncinatus seemed normal in every respect, except that the beautiful interlacements which are normally found at the ventral part and the caudal part of the fasciculus obliquus fasciculi uncinati were not well marked on account of the deficiency of the other bundles which normally assist in forming them. Possibly the caudal part of the fasciculus obliquus did not extend quite as far backward as usual.

The Lemniscus Temporalis et Occipitalis, a comparatively fine fibered bundle, which followed its normal course through the temporal region

and had normal relations. Its posterior part seemed smaller than normal and its zone of termination seemed less extensive than usual.

It can readily be seen that the results obtained by this method point in a similar direction to the results obtained by the previous methods of investigation mentioned, namely, to atypical or defective formation.

SUMMARY

1. John Junkins had a bad family history and was a criminal by birth, by education and by environment.

2. By careful study, it is possible to recognize defective or atypically constructed human beings.

3. The body of Junkins showed a much larger percentage of anomalies than is found in average bodies.

4. Junkins' skull showed a large percentage of anomalies.

5. Junkins had the gyri type of a dolichocephalic, but was a mesati-cephalic.

6. Too early closure or ossification of sutures or irregularities in the embryonal development of the flat bones of the skull constitute factors which to a great extent determine the gyri and fissure type of the brain.

7. The vessel findings seem to point toward the left temporal lobe as being of low development.

8. The measurements of the gyri and sulci of Junkins' brain compared with average measurements of fifty brains point distinctly to great variations in the left parietal and the frontal and temporal regions.

9. Close study of the gyri and sulci shows that the frontal and parietal regions were late in developing (maturing) and that the temporal lobe had as yet not reached its full complexity.

10. The shape and size of a gyrus will be affected by the number, location and distribution of its constituent neurones.

11. According to Professor Benedickt's classification of criminal brains, we must classify Junkins' brain as slightly deviating from the school type.

12. Bolton's micrometric measurements of the primary cell and fibre laminae of the cortex seem to show a deficiency in gray matter.

13. Fibre dissection of the brain shows distinct under-development, anomalous development and atypical construction of the association bundles.

14. There is no doubt in my mind but that John Junkins was an atypically-constructed human being, an anatomical defective, and consequently the possessor of an atypically functioning mind.

15. Being convinced that in non-diseased criminals there must exist an anatomical basis for crime, and knowing also that criminals of this class cannot be recognized by juridical and psychologic methods only, *I do not hesitate in recommending the abolishment of capital punishment* and the erection of special establishments for the perpetual or indefinite seclusion of incorrigible criminals, as is also recommended by Lombroso in Italy, Leveillé in France, Minzloff in Russia, May in England, Kraepelin and Lilienthal in Germany, Wallberg in Austria, Guillaume in Switzerland, Van Hamel in Holland, Lucas in Portugal and Wines and Wayland in America.⁵

DISCUSSION

Dr. Carl Wagner: On account of lack of time it was impossible for me to prepare a special paper and therefore must limit myself to a few brief, general remarks.

As doubt is often the source of some new scientific departure so formed the Lombroso's skepticism of the French term of "Moral Lunatics" the foundation of the new science called "Criminal Anthropology." The application of experimental methods to the study of the diversity between lunatics, criminals and normal individuals produced a solid working foundation which found its way into jurisprudence and created the modern or positive school of penal jurisprudence, which maintains that anti-social tendencies of criminals are the result of their physical and psychic organizations which differ essentially from that of normal individuals, while on the contrary the old classical school of penal jurisprudence upheld that criminals possess the same intelligence and feelings as normal individuals and therefore only the offense itself could come in consideration for the determination of the punishment. The greatest stimulus for the development of criminal anthropology was brought about through the findings at a post-mortem held on the body of Jack the Ripper, named Vitella, in Italy. On the place of the occiput which corresponds to the crest in the normal, a depression was formed which bears now the name of "median occipital fossa."

This depression, as in the case of animals, was correlated with the hypertrophy of the vermis known in birds as the middle cerebellum. This vermis was so enlarged in the case of Vitella that it almost formed a small intermediate cerebellum like that found in the lower types of apes, rodents and birds. This anomaly is seldom met with in the insane or other degenerates but later investigations have shown it to be prevalent in criminals. "This discovery was like a flash of light. At the sight of that skull he seemed to see all at once, standing out clearly illumined as in a vast plain under a flaming sky, the problem of the nature of the criminal who reproduces in civilized times characteristics not only of primitive savages, but of still lower types as far back as the carnivora." The various careful studies and observations of those engaged in the pursuit of criminal anthropology have shown that in most of the delinquents anomalies occur in almost any part of the body. This fact is well shown in the case of Dr. Hoeve's, in which the number and variety of anomalies exceed by far the average known to exist in a single individual. The question of linear craniectomy which he proposes as possible cure in some cases, especially if it can be done in the age of adolescence, deserves notice and probably advocacy of trial. While it may be novel as in regard to this special application, it is by no means an innovation in mentally defective ones, as Lannelongue of Paris had very enthusiastically introduced it in 1890 for the cure of idiots. We practiced this new operation here in Chicago in 1891-1892 in a number of cases, but had to come soon to the same conclusion from our practical results of the operation, as St. Marie, head of the great Insane Asylum at Bicêtres near Paris, in his theoretical deductions and resulting polemic against the Lannelongue linear craniectomy. He maintained that the cranial bones stop growing and the fontanelles and sutures close, because the brain has ceased to grow and not as irrationally has been accepted by Lannelongue that the brain stopped growing because the early closing and ossification of the fontanelles and sutures prevented it from developing. The opinions held by all experienced in the question was soon unanimous in the sense of St. Marie's teaching and the operation abandoned as based on a fundamentally theoretical error. The presence of pathologic conditions or anomalies may lend another aspect to the feasibility of this operation. In speaking of another very important point of Dr. Hoeve's paper, namely, the consideration of abolishment of capital punishment and substitution of surgical interference, it might be suggested that for trial sake of his proposition and the study of the question of how much or at all a criminal is mentally and morally responsible in view of the presence of anatomical anomalies, one might leave an alternative for the convicted criminal to chose between capital punishment or submission to an operation, the feasi-

bility and advisability of which should first be considered by a council of true students of criminal anthropology, neurologists, and surgeons well versed in this highly responsible subject.

In closing I should like to say: in view of the glorious fact that America was the first country to receive with open arms the principles of the new school of criminal anthropology, it lends special interest to this most important topic and it would seem desirable that we might have occasion to listen often to treatises on this subject. America did not only readily understand the remote national-economical meaning of this new school, but true to its enterprising spirit put the same immediately into practical use, as is readily shown by the wonderful results of the Reformatory at Elmira, the Probate System, Juvenile Courts, George Junior Republic, etc. This country has shown the highest conception and appreciation of criminal anthropology by introducing in its court-trials of importance anthropological cooperation, which is absolutely original with the United States, and gives to America the credit of wise progressive intelligence in criminal jurisprudence.

Dr. H. E. Sautlee, Chicago: I have listened to Dr. Hoeve's address with deep interest. His investigation is a remarkable one. If such a study could be made of all our major criminals, every source of information exhausted and the facts systematized and recorded with such painstaking care as Dr. Hoeve has exercised, we might arrive at conclusions that would revolutionize our criminal code.

For a hundred years it has been the constant endeavor of investigators to establish a definite relation between the mind and the brain. Since the publication of the work of Franz Joseph Gall one school of investigation has sought the physical basis of "mental faculties" in definite gyri of the brain, and its work has been very fruitful. To-day among students of the nervous system, it is universally believed that definite limited regions of the cerebrum are connected with and absolutely essential to certain phases of mental activity. This cannot be doubted since the work of Fritsch and Hitzig on the motor points of the dog's brain (1870) has been corroborated by scores of men, including myself, and the embryologist, the pathologist and the experimentalist have done much more than locate the motor points of the human brain. We know the location of the emissive motor centers, the psychic motor centers, the receptive centers of common sensation, the centers of vision and hearing, etc., numbering altogether thirty-six distinct centers; and we know that the cortex of the cerebrum in these centers has a structure so characteristic that under the microscope we can recognize sections of them just as we can diagnose spleen, or stomach or duodenum. Thus we may say, that along the line of locating the physical bases of definite mental functions great progress has been made.

A second school of investigation has attempted to establish a ratio between quantity of brains and mentality. Its results have been almost entirely negative, because:

1. Some great men have large, some small brains.

For example the brain of Gauss, the great mathematician, weighed 1,492 gm.; Agassiz, the naturalist, 1,512 gm.; Cuvier, naturalist, 1,830 gm.; Daniel Webster, the great American orator and statesman, 1,516 gm.; and Gambetta, orator and statesman of France, 1,292 gm.

2. Some men of low mental capacity have large brains, as have also the whale and elephant.

3. Cortex differs in area and thickness in brains of same size, ranging from 1.5 mm. to 3.9 mm.

4. Neurones vary in capacity and in number per c.mm. of cortex; they are more numerous in lower animal brains, but richer in dendritic processes in the human brain.

Therefore, size and weight of brain do not determine capacity.

A third line of brain study seeks to establish a relation between mental capacity and the number and complexity of cerebral convolutions. This line of study touches defective development and the presence of anomalies and promises

well for the future. That there is a relation between complexity of gyri and the mentality of the individual is supported by the fact that the permanent cerebral gyri begin to appear in the fifth month in utero and gradually develop thereafter; also by the fact that the lower type monkey's brain, which presents the general human pattern, is very much simpler than the human brain and the higher types, as the chimpanzee and gorilla, have gyri and sulci approaching much nearer to the human complexity than the lower forms. And again, when we recall the fact, that, of the 200,000 sq.mm. of cortex in the average male brain, only one-third constitutes free surface and the other two-thirds bound sulci and fissures, we must infer that the number and depth of the sulci are facts of considerable importance. It is true that some very inferior animals have richly convoluted brains and that the brains of some animals higher in the scale are non-convoluted; yet, in the same species of animal, we have some evidence suggesting a correlation between complexity of gyri and mentality; especially is this true in limited regions of the human brain. In skilled artisans a high development of the middle third of the anterior central gyrus and the foot of the middle frontal gyrus (arm areas) has been recorded in a few cases, while the left inferior frontal gyrus has been found to possess marked complexity in certain great orators, as in Gambetta of France, and others; but not enough observations are on record to justify a positive conclusion. The brain of John Junkins, which has very simple gyri, furnishes new evidence to support this theory of low mentality in association with few simple gyri.

To establish a correlation of brain architecture and the moral sentiments is even more difficult of proof than the foregoing propositions. We do not know the location of that part of the brain connected with the moral sentiments. We assume that the physical basis of ethical principles must be a complex associative mechanism connecting widely separated parts of the cerebrum, the probable center of this mechanism being in the left frontal lobe in right handed people. Proceeding from this assumption, we may conclude that defective association tracts, such as Dr. Hoeve has found in Junkin's brain, may be an element accounting for his deficient ethical principles. Certainly the principles of right and wrong and other ethical concepts are correlated to the highest functioning of a well-developed brain, while vengeance, cruelty, blood-thirst, and their like, are mental products mediated by inferior brains. This in a broad sense is but a statement of historical fact. John Junkin's brain has many features indicative of its low type, some of them being characteristic of the gibbon and the orang-outang and lower in the scale than the chimpanzee and gorilla. Given a brain, in some respects resembling a brute's, we expect a brutal mentality to accompany it.

Again, if anomalies are the persistence in the adult of an embryonic stage of development, and this seems their most reasonable explanation, then the enormous number of anomalies (about sixty found in the body of John Junkins outside the nervous system entirely) constitutes very strong testimony of incomplete development and low type of man.

At present we must admit the relations of character and anatomy are little understood; but, if there be any truth in Forel's proposition that a man thinks only as he may, only as is possible with his nervous mechanism, and there is surely some determining function in the brain, then Dr. Hoeve's studies touch and illumine in a modest way a problem of wide interest and far-reaching importance to the human race. Is a criminal merely a defective who cannot help committing crime? For the safety of society we are loath to admit such a proposition; and yet, we must be ready to receive with open mind all facts without prejudice, and maintain or modify our legal procedure in accordance with the evidence.

Fred A. Leusman: I move that a vote of thanks be extended the Doctor for this extraordinary presentation and his courtesy in coming here to give us the benefit of it.

Unanimously carried.

EXPERIMENTAL TRANSPLANTATION OF LEGS *

From the Department of Experimental Surgery of the Northwestern University
Medical School

V. D. LESPINASSE, M.D.

CHICAGO

After having developed a method of end-to-end blood-vessel anastomosis and determined beyond a doubt that this method is sure, simple and easy of performance, the next logical procedure was to build on it as a foundation, and we turned to the transplantation of legs as a theoretically possible operation.

The transplantation of entire organs and extremities is a field of surgery that up to the present has been considered impossible. Now, however, this subject is a very live one from an experimental point of view and promises solution. This paper will report my work on the extremities of dogs and humans.

When a limb is completely severed all the structures must of necessity be reunited in order to obtain a perfect result. The skin, fat, fascia, muscles, bone and nerves are easily repaired, by well-known and standard technic. The blood-vessels and the lymphatics are vitally important structures that must be reunited and their union is the real problem.

The lymphatics are so small that they cannot be anastomosed directly but by a careful approximation of the fat and fascia through which the larger trunks run the lymphatic canals will reestablish themselves in from two to three weeks. This is proved by the occasional replacement of a completely severed finger-tip, instances of which have come under the observation of all of us. In the experimental work the legs were very edematous for from one to three weeks, and then they invariably returned to normal, showing that the union of the lymphatics will occur and is easy of accomplishment surgically.

We commenced our experiment by cutting the femoral vessels, reuniting them and then cutting about two-thirds of the thigh muscles. There was slight operative edema of the legs noticed, but this rapidly disappeared and in two weeks the wounds were healed and the animals were using their legs as well as before. In the next series we cut all the structures of the leg except the nerve, bone and femoral vessels. The nerves and vessels were stripped of their sheaths and the dissection carried down into their substance. The periosteum of the bone was cut; in this way all the lymphatics except those of the bone were destroyed. These animals all had good legs after healing.

Next all the structures were cut except the femoral vessels and these vessels were dissected out most carefully; all of their sheath and most of the adventitia was cut across so all the lymphatics that were left were in the substance of the blood-vessel walls themselves. These animals all had good non-edematous legs after healing.

The last series in this work was the complete severance of the leg from the body and its replacement by repair of all the various structures. The

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

bone was wired, the skin, muscles, fascia and nerves were sutured, and the blood-vessels united, using absorbable magnesium rings.¹

The legs gradually became edematous, this edema reaching its maximum about the fourth day. At this time the sutures would be loosened up and the dogs that had survived were beginning to walk around and lick their wounds, and as the legs were anesthetic from section of the nerves, they had no pain to deter them and in many cases they licked their legs off. After the operation the legs remained warm and the dorsalis pedis artery could be felt to pulsate for a variable period of time up to one week. Most of the legs became cold on the fourth day, but the last two operated when I used very heavy sutures in the skin, using first a continuous stitch and in addition interrupted stitches every inch, thus delaying the licking out of the sutures and motion in the amputated leg. The dorsalis pedis artery pulsated for one week and the leg remained warm for the same length of time.

HUMAN EXPERIENCE

Middle-Aged Intoxicated Man.—Car wheel run over the lower end of the arm, causing a compound comminuted fracture of the humerus and pulpifaction of the muscles and cutting the brachial vessels. The crushed bone and muscles were removed by Dr. Bohart and the blood-vessel anastomosis was done by myself. When the patient entered the hospital his hand was cold and there was no radial pulse. As soon as the arterial anastomosis was completed and the clamps removed the pulse came back and the hand became pink and warm. The pulse was present and the hand was warm up to the patient's death twenty hours after operation.

CASE 2.—I had the privilege of operating on this patient through the courtesy of Drs. Owens and Eastman. Patient could not talk English, so we could not determine the mechanism of the accident. Examination showed a large ecchymosis of the left leg involving the lower thigh and upper leg, the foot was cold and the dorsalis pedis was not pulsating on incision in the median line of the popliteal space. The popliteal vessels were exposed; these were traced down, and at the lower limit of the popliteal space the artery was found torn square across. I removed a clot about 1½ inches long from the central end of the artery, cut off a trifle of the vessel end, which was badly contused, and then made an end-to-end anastomosis with magnesium rings. As no bones of this man's leg were fractured, there was no chance to shorten his leg, and as about 2 inches of the artery should have been removed and was not, the operation failed, the man dying of gas-bacillus infection on the fourth day.

CONCLUSIONS

Blood-vessel anastomosis will not save every crushed limb, but it will save a great many that now are amputated. The points to be considered in selecting cases are first, damage to the blood-vessels themselves; the crushed and contused portion of the blood-vessels must be removed. If you cannot bring the vessel ends together after this has been done, the

1. Technic described in full in Jour. A. M. A., Nov. 19, 1910, and Surg., Gyn. and Obs., May, 1911.

extremity must be shortened till approximation is possible. If the nerves are intact the probability of success is increased, as section of the nerve tends to vasodilatation, and hence stagnation of the blood stream, thus predisposing to thrombosis. A crushed limb should not be amputated without a careful examination as to the possibilities of resecting the crushed portion and replacing the hand or foot back on the stump.

DIAGNOSIS OF ASSOCIATED DISEASES OF THE EYE AND NASAL ACCESSORY SINUSES

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The close relation of nasal to ocular disease becomes more apparent as we learn to look for the important diagnostic points. There are five types of accessory sinus disease affecting the ocular apparatus; acute or chronic sinusitis with external manifestations, as orbital cellulitis, abscess, tumor or edema of the eyelids; sinusitis without external signs but accompanied by optic neuritis, retinal disease, scotomata, visual field defects or ocular muscle paralysis; sinusitis as a possible cause of glaucoma, iritis, keratitis, uveitis, etc.; rarely mucocoeles of the sinuses act as the etiologic factor, and lastly unilateral pain or headache due to rarefaction of the air within the frontal sinus or ethmoidal cells.

Symptomatology.—Asthenopic symptoms due to sinus disease are usually reflex in nature but may also be due to a toxic process or to stasis in the orbital circulation resulting from the circulatory disturbances within the diseased sinuses. These symptoms are identical with those due to refractive and muscular anomalies of the eyes and are therefore first seen by the oculist. Snydacker¹ has found that from 7 to 10 per cent. of the patients who consult the oculist on account of headaches are really suffering from disease of these sinuses.

The location of pain and headache due to sinus disease is not constant for each sinus, although in a general way the walls of the affected sinus are usually painful to pressure and stooping frequently serves to localize the pain by causing a sensation of pressure with increase of the pain within the affected cells. Sinus pain is frequently paroxysmal, beginning and ending at about the same hour each day. A confusing fact is the inability to use the eyes comfortably during the attacks of pain, leading the patient and his oculist to believe that their origin must be ocular. In such cases, however, there are always intervals during which the patient experiences no discomfort, no matter how much he uses his eyes, and again the pain of a sinus disease may occur at night, unlike the pain of eye-strain, which is practically always relieved by rest.

Visual Fields.—All varieties of visual field anomalies have been ascribed to sinus disease, but the most valuable findings are central and paracentral scotomata and enlargement of the blind spot. There is no

1. Klin. Monats. f. Augenh., June, 1909, p. 629.

space here to deal with the literature of these investigations. Suffice it to say that the work has been advanced by such men as Ziem, Birch-Hirschfeld, de Schweinitz, Van der Hoeve, de Kleyn, and Ramsey and Sutherland and a great many others.

Where a central scotoma is present it is usually unilateral and may be found only for colors, disappearing when the affected sinus is drained, or remaining to some degree where permanent damage to the central fibers of the optic nerve has occurred.

MacWhinnie² has described a horseshoe-shaped paracentral scotoma in disease of the posterior cells which gradually disappeared by segments following the establishment of drainage of these cells, returning when the drainage was interfered with.

Risley³ has reported a return to normal vision and visual fields from proper drainage of the frontal and ethmoidal cells after two years of optic neuritis with flame-shaped hemorrhages throughout the fundus, impaired central vision and contracted fields.

One of the writer's cases with a well-defined papillitis and edema in the macular region due to a combined frontal, ethmoidal and antral infection, showed an absolute central scotoma for red and contraction of the fields for white and red chiefly temporally. Two months after operation to establish drainage, the field for white had extended 20° temporally, and only a slight relative central scotoma for red remained, the vision having improved from 20/100 and J. 10 to 20/30, and six months later the vision remained 20/30 and plus 1.50 S. gave J. 1. The papilla still showed some evidence of the exudates but the edema had disappeared.

De Schweinitz⁴ has also described a ring scotoma in the left eye and a triangular paracentral scotoma in the right eye in a case showing pus in the left sphenoidal sinus. This case slowly improved following irrigation of the sinus. An unusual feature of this case was a fugitive episcleral congestion accompanied by a curious wrinkling of the corneal epithelium.

That the visual field is not always affected is shown by Haeffner and Henrici,⁵ who found no disturbance of the fields in seventeen cases of ethmoidal and three sphenoidal sinus infections. In contrast to the scotoma of general toxemias, such as toxic amblyopia, chemical poisoning, etc., the scotoma due to sinus disease is usually unilateral.

The eyelids may show edema as a result of frontal or anterior ethmoidal infection, and this tends to lessen as drainage is established, being less at night than in the morning. Where orbital involvement occurs, the lids become swollen, red and indurated with edema of the conjunctiva. Edema of the upper eyelid is considered by Gerber to be one of the earliest symptoms of orbital involvement. Epiphora practically always accompanies a sinuitis which affects the eyes and is fre-

2. New York Med. Jour., August, 1910.

3. Ocular Affections Associated with Disease of the Sinuses, etc., Ann. Ophthal., October, 1908, p. 608.

4. Tr. Am. Ophthal. Soc., 1910.

5. Klin. Monats. f. Augenh., January, 1908, p. 1; quoted by Birch-Hirschfeld.

quently the earliest symptom. In addition, we are all familiar with the rôle played by sinus disease in the causation of the commoner diseases of the lacrimal apparatus.

The cornea and sclera are rarely affected in sinus disease, although Posey⁶ and Gerber⁷ mention the occurrence of a herpetic eruption on the cornea, and de Schweinitz has observed a wrinkling of the corneal epithelium in a few cases of episcleritis due to sinus disease.

Sinus disease should be excluded in all cases of paresis, paralysis or insufficiency of the ocular muscles. The external rectus is most frequently affected in the former conditions because of the close relation of the sixth nerve to the wall of the sphenoid sinus. The internal recti are very frequently affected due to their close apposition to the orbital plate of the ethmoidal labyrinth. Excursion of the eye-ball toward the affected muscle is usually painful.

Holmes⁸ has observed complete paralysis of the extraocular muscles with ptosis recover almost completely within a few weeks following drainage of the frontal sinus, antrum and anterior ethmoidal cells.

Ziem⁹ has produced strabismus experimentally by closure of one nostril, resulting in asymmetrical development of the orbit and ethmoidal cells.

Now that we are seriously considering the nose as a factor in ocular disease, we are finding these associated conditions more often. This is nowhere better exemplified than in the various intraocular diseases. The writer recently saw a case of severe iritis, where all indications seemed to point to an intestinal auto-intoxication as the cause. Proper diet and eliminative treatment for several days made no impression on the iritis and where at first a cursory nasal examination had revealed no sinus disease, at a later observation following the use of the suction apparatus, pus was found draining from the anterior ethmoidal cells. The iritis entirely disappeared within thirty-six hours following the successful drainage by means of the suction pump.

Eversbusch¹⁰ has observed turgescence of the turbinate bodies on the side of the injured eye where sympathetic ophthalmia occurred and this nasal congestion disappeared after enucleation of the first eye. Eversbusch therefore considers this an important indication to enucleate.

Nasal operations have apparently caused intraocular hemorrhage, as in the case described by Holmes, where a circumscribed choroidal hemorrhage occurred 24 hours after removing a polypus with cauterization of the base. Thigpen¹¹ also observed a severe intraocular hemorrhage following the drainage of a sphenoidal sinus which required enucleation for a secondary glaucoma.

Axenfeld¹² has noted the frequent occurrence of chills at the onset of retrobulbar neuritis, and considers this symptom to indicate the accessory sinus as the probable cause.

6. Jour. Eye, Ear and Throat Dis., November-April, 1905, p. 31.

7. Die Complication on der Stirnhohlen, 1909.

8. Ohio State Med. Jour., February, 1906.

9. Monats. f. Ohrenheil, August, 1893, p. 231.

10. Graefe-Saemisch Handbuch, 2 aufl., 61 n., 62 liefer, s. 65.

11. Tr. Sec. Ophthal., A. M. A., 1910.

12. Lancet, London, Aug. 8, 1908.

Widmark¹³ reports a case of bilateral retinal detachment which was, in his opinion, cured by treatment of polypoid degeneration of the lining membrane of the ethmoidal cells and a maxillary sinusitis with orbital inflammation. The retina of one eye reattached in twelve days with vision of 9/10, while the other eye recovered in one month; vision not given.

Posey¹⁴ has reported a special type of retrobulbar inflammation caused by acute posterior sinusitis due to sea bathing. His cases exhibited hazy vision, diminished light sense, central scotomata, and usually pain on pressing of the globe backward into the orbit. Posey believes that edema of the optic nerve occurs in these cases, and has in some instances noted blurring of the papilla and partially dilated pupil.

Orbit.—In view of our present belief, as expressed by Birch-Hirschfeld, that practically all orbital inflammations are due to disease of the accessory sinuses, it seems remarkable that even as late as 1882 Schwendt published a dissertation on orbital disease in which these sinuses received no mention whatever. The picture of orbital inflammation, with the red, brawny, swollen eyelids and displaced globe is familiar to all. Some idea of the source of the infection may be gained by noting the direction of the displacement of the eye-ball, down and out in the frontal sinus infection, outward or up and out in the ethmoidal; and in sphenoidal disease the globe is proptosed almost directly forward.

Van der Hoeve¹⁵ has found enlargement of the blind spot, which he calls peripapillary scotoma, to be one of the earliest symptoms in disease of the posterior accessory sinuses. His own investigations and those of de Kleyn revealed this symptom in fifty-four of fifty-nine cases of disease of the posterior cells, and only once in disease of other regions of the nose. He considers that this symptom is positive when the color scotomas are larger than that for white, or the extent of the blind spot for white and colors is greater than normal or the size of the scotoma changes during the course of the nasal disease.

An interesting experiment by de Kleyn¹⁶ showed that when the ostia of the accessory sinuses were blocked by a tampon the peripapillary scotoma was produced only in the sinuses having diseased lining membrane, so that toxins apparently play the chief rôle. This type of the enlargement of the blind spot of Mariotte is to be distinguished from the scotoma of the toxic amblyopias, which frequently include the region of the blind spot, and especially from that peculiar vertical spindle-shaped enlargement noted by Maitland Ramsey and Sutherland¹⁷ in sympathetic ophthalmitis. Accurate mapping of the blind spot is not possible, however, without the use of a Bjerrum screen.

13. Ophthalmic Review, September, 1908, p. 280.

14. Ann. Otol., Rhinol. and Laryngol., June, 1909, p. 354.

15. Enlargement of the Blind Spot, etc., Archiv. Ophthal., January, 1911, p. 30.

16. A Contribution to the Study of Optic Nerve Disease, etc., Archiv. Ophthal., lxxv, No. 3.

17. Spindle-Shaped Enlargement of the Blind Spot, Associated with Congestion of the Optic Disc, Ophthal. Review, January, 1906.

If at the first appearance of the lid edema the sinuses are investigated and proper drainage established, it would rarely be necessary to do the radical operations about the orbit and the safety of the globe would be assured. The writer has had the experience of operating by the orbital route and finding no pus in the orbit but diseased posterior ethmoidal cells. Since that time several cases have been apparently permanently cured by intranasal operation alone and in one case by evacuation of infected ethmoidal cells by means of the suction pump. This latter case, however, was treated only about six weeks ago, too soon to draw conclusions. The presence of streptococci or pneumococci in the sinus pus in the orbital inflammations indicates the necessity for early operative intervention, as these cases present the most violent reactions and are likely to extend rapidly and result fatally.

A fatal case of streptococcus infection occurred in the writer's practice. The patient, aged 76 years, had suffered from severe headache for six weeks and was constantly under opiates. There was a unilateral optic neuritis, which had resulted in complete blindness when first seen. Skiagraphs were negative for all sinuses except the sphenoid, and I was assured that this sinus could not be well shown in a skiagraph. Examination by means of the suction pump upon four occasions showed mucopus draining from the corresponding choana. The anterior sphenoidal wall was accordingly removed and the lining membrane found to be discolored and much thickened. Examination a few hours after operation revealed necrotic bone at the supero-external angle of the sinus and thick pus was draining from the wound. The headache was at once relieved, and no further opiates were required. In spite of drainage, however, the process gradually progressed and resulted fatally from meningitis fourteen days after operation. Cultures from the sinus and the blood showed streptococci.

As improvements in diagnostic methods, such as the x -ray and the vacuum apparatus, make early diagnosis of sinus disease possible, we are more frequently detecting its influence on the ocular structures. We are also finding that the ethmoidal cells are much more frequently diseased than we formerly believed and that they act much more frequently as the source of the ocular disease than the frontal or maxillary sinuses which, doubtless, owe their past prominence in this respect to their greater accessibility. It is sometimes difficult to differentiate between orbital diseases of sinus origin and that due to new growths, but nasal findings, skiagraphs, temperature and differential blood count should decide the question.

In closing, I wish to make a plea for the routine examination of the nose in all cases of ocular disease, and also for the exercise of conservatism and careful judgment to avoid needless operative work on so important a functioning organ as the nose. Too great enthusiasm in this direction cannot fail to reflect discredit on this work, and to some extent retard its progress.

ON THE INTERNAL SECRETION OF THE THYROID WITH BRIEF CONSIDERATION OF OTHER FACTORS OF THE GLAND

AXEL WERELIUS, M.D.

(In Connection with paper on Goiter Among Insane)

CHICAGO

Of late great interest has been centered about the supposed internal secretion of the thyroid. Oliver and Schafer,¹ Von Cyon,² Von Cyon and Oswald,³ conclude from their experiments that an iodized protein "thyro-iodin" is the active principle of this secretion. Their view is supported by a great many observers.

The work of others, however, especially that of Furth and Schwartz,⁴ throws great doubt on the specific property of this substance. These latter men found that iodized blood-albumen behaved the same as thyro-iodin; in fact, any iodized substance acted similarly. Thus the activity of thyro-iodin may be due entirely to the iodine present.

From the histology of the gland with its vesicles lined with epithelial cells pointing alveolar-ward, it seems more than probable that in these spaces ought we to find the internal secretion. In the adult many of these vesicles are normally filled with colloid. Does this colloid represent the internal secretion? That is not yet definitely proven, but it must be either a product of cellular secretion or degeneration, or else possibly a mixture of both. If the colloid as we see it in the normal gland be a product of cellular degeneration, then, of course, this degeneration is a normal process, and if interfered with results in the heaping up of cells as we see it in the hyperplastic thyroids. For this process of colloid production iodine seems to be necessary.

Marine⁵ found that on administration of iodine to dogs with hyperplastic thyroids which contain little or no colloid and mostly are iodine free, that the vesicular cellular ingrowths gradually disappeared, being replaced by colloid. In other words, the gland gradually approached the normal aspect. On the other hand, withdrawal of iodine in food to normal dogs caused their thyroids to undergo hyperplasia with complete or almost complete disappearance of colloid.

Thus it would seem that iodine is essential for this process of colloid degeneration of alveolar cells. If there is lack of iodine then the desquamation of vesicular cells with consequent colloid degeneration does not take place, and piling up of cells forming papillomatous vesicular ingrowths will be the result.

If, on the other hand, colloid represents the internal secretion, then how will we explain the paucity of colloid in hyperplastic glands which are supposed to depict an increased activity of the organ? The answer

1. Oliver and Schafer: *Journal of Physiology*, 1895, xxxiii, 277.

2. Von Cyon: *Archiv. für die gesammte. Physiologie*, 1895, lxx, 126; 1898, lxxiii, 42.

3. Von Cyon and Oswald: *Ibid.*, 1901, lxxxiii, 199.

4. Furth and Schwartz: *Ibid.*, 1908, cxxiv, 113, 261.

5. Marine, S.: *Journal of Infectious Diseases*, June, 1907, iv, 417-425.

must be that normally there is an intravesicular storage of colloid, but in hyperplasia the demand on the gland is so great that no storing up is possible, hence lack of intravesicular colloid; or without there being an extra demand on the organ there is an abnormal direct discharge of the secretion into the blood without the ordinary preliminary intravesicular storage, resulting in man in the condition termed hyperthyroidism.

It is said that in the young where the gland is supposed to be of the greatest use, no colloid is found. Here again it might be explained that excessive demand prevents intra-alveolar storage.

It is quite generally believed that it is the colloid that fixes the iodine in the gland, but that is not at all proven. Certainly it is not the colloid that fixes the iodine administered to hyperplastic goiter dogs, glands of which, as a rule, contain no colloid. Furthermore, iodine is held in tissues that contain no colloid, although it must be admitted not in such quantities as in the thyroid.

Then again, the seemingly identical colloid of the pars intermedia of the hypophysis (Simpson and Hunter,⁶ Haliburton, Chandler and Sikes,⁷ Carlson⁸) has apparently no power of fixing iodine.

Whether iodine is a constituent of the supposed internal secretion or whether it is only a factor in stimulating the gland to proper activity, is not definitely known. That it may be the latter seems to be supported by a vast abundance of clinical evidence.

Excessive iodine administration may bring about greatly increased activity of the thyroid, resulting in "Iodine Basedow" (Kocker⁹).

If the internal secretion is contained in the vesicles, how is it taken up in the system? It must be carried off through either the blood or lymphatics. Hurtle¹⁰ believes that the intravesicular secretion is drained off by minute intercellular canaliculi into the surrounding lymph vessels. Biondi¹¹ and Langendorff¹² advance the view that, owing to desquamation and degeneration of lining vesicular cells, the follicles become continuous with the peri-vesicular lymph spaces, thus permitting escape of colloid via the lymphatics. These observers found colloid in interfollicular lymph channels.

Renaut agrees with above researchers but suggests that in Graves' disease the internal secretion is thrown directly into the blood, owing to an intervesicular sclerosis obstructing the lymph channels.

Carlson and Woelfel⁸ have worked carefully for years on thyroid lymph mostly from dogs, endeavoring to isolate the physiologic important secretion. Their paper, although a record of negative results, is by far the most interesting on the internal secretion of the thyroid. From

6. Simpson and Hunter: *Proc. of the Soc. for Exp. Biol. and Med.*, 1909, vii, 11.

7. Haliburton, Chandler and Sikes: *Quar. Jour. of Exp. Phys.*, 1909, ii, 289.

8. Carlson and Woelfel: *Am. Jour. of Phys.*, xxvi, April 1, 1910.

9. Kocker-Weber, T.: *Iod. Basedow*, *Archiv. für Klin. Chir.*, Berlin, xcii, No. 4, pp. 913-1215.

10. Hurtle: *Archiv. f. d. gesamte Phys.*, 1894, lvi, 1.

11. Biondi: *Berl. Klin. Wchnschr.*, 1888, 47.

12. Langendorff: *Archiv. f. Phys.*, 1889, Suppl., p. 219.

their observations, they conclude that similar to other secretions the one from the thyroid in all probability is also taken up by the blood.

Carlson advances the highly interesting but improbable supposition that the vesicular cells at first secrete into the vesicle, there storing the supposed internal secretion, which is later absorbed and eliminated outward into the blood, thus furnishing "the only instance in the whole animal kingdom where a supposed physiologic secretion is first eliminated from the cell in one direction, then absorbed by the same cell and eliminated in the opposite direction."

Of course, a great number of theories may be constructed. One might suggest that if the vesicle should contain both colloid and an internal secretion that each may have a different path of absorption. In view of the fact that colloid apparently has been seen in the perivesicular lymphatics it seems possible that this substance might be taken up in the lymph stream, and the supposed internal secretion might reach the system through the blood, but in what manner would, of course, be difficult to explain. Then again the physiologic important secretion might be eliminated outward directly into the blood instead of into the follicle and the colloid be carried off as above by the lymphatics.

In regard to the supposed internal secretion coming from the different types of the gland: does the high columnar cell of the hyperplastic thyroid, the extremely flattened cell in colloid goiter and the cuboidal cell of the normal organ eliminate the same quality of secretion, or is the difference only one of quantity?

A great deal of fruitless (not worthless) work has been expended in an effort to experimentally produce typical exophthalmic goiter in the lower animals. The only effects from thyroid overfeeding seems to have been a slight loss of weight and a transient tachycardia (Furth and Schwartz¹³) and not always even that. It is doubtful whether these results are specific of thyroid feeding. Probably excessive administration of other glandular extracts would result similarly.

Considering the fact that no authentic case of spontaneous Graves' disease has ever been recorded as occurring in the lower animals, it may be somewhat difficult to produce it artificially, especially as the condition is not of an infective or contagious nature.

In order to isolate the specific secretion, more work should be done on man. Blood coming from thyroid veins, particularly in Graves' disease, should be carefully studied chemically, microscopically, and by injection-experiments. Of course, such work could only be carried out where a large amount of clinical material is available, as with the Mayos and Kockers, and probably a few others. It is from these men, aided by competent physiologists, that we may hear something more definite concerning this highly interesting problem.

The symptomatic phenomena associated with thyroid disturbance differs a great deal in man and the lower animals.

13. Furth and Schwartz: *Archiv. f. Physiol.*, 1908, cxxiv, 113, 261.

Thyroidectomy is followed in some by the most grave and permanent symptoms; in others by only temporary disturbance, following which the animal seems as well as ever (Carlson⁸), and again in others, not the slightest change will be noticed. This may probably be due to thyroid having a different function in the various groups of mammals; other organs compensating more or less fully for the loss of thyroid; or presence of nests of thyroid tissue in other parts of the body not yet demonstrated.

Outside of these symptomatic contrasts, man and other mammals also differ in their relation of goiter to sex and geographical distribution, reaction of the test of Hunt,^{15 16} etc. (Carlson, Werelius¹⁴).

Although the majority of observers agree on a pathognomonic pathologic process in Graves' disease, such men as Kocker, Howard, Langhans and Reinbach deny this.

Shephard and Duval¹⁷ examined fifty cases postoperatively. In quite a number of cases did they find a pathologic picture eminently characteristic of Basedow's disease accompanied by anything whatsoever pointing symptomatically to this disorder. On the other hand, in several cases that exhibited the most marked symptoms of hyperthyroidism, did they find only a simple goiter. I would not be at all surprised if it was shown that quite a number of goiters of girls at puberty would show this supposed characteristic, hyperplasia of exophthalmic goiter. Such histologic pictures would then have to be termed physiologic hyperplasia (Werelius¹⁴) and would possibly be analogous to some of the hyperplasias we see in the canines.

This process in dogs cannot, it seems to me, be identical with that of Graves' disease in man, unassociated as it is with anything that could possibly suggest that condition.

Marine believes that Graves' disease is only a step in a condition that terminates in myxedema. If that is so, I would like to ask why we have so comparatively many exophthalmic goiters in this country and so extremely few myxedemas? It cannot be that the disease (myxedema) mainly manifests itself in its premyxedematous stage.

Just because of a few reports of myxedema following Graves' disease, it does not follow that exophthalmic goiter is only a stage of this condition. In the cases reported, I suppose the thyroid underwent atrophy, or was the site of a diffuse sclerosis completely destroying its function. Such a process may, of course, supervene on any goiter, simple or otherwise, or even on a normal thyroid, and cannot be looked on as occurring especially in Graves' disease.

Among the numerous etiologic factors of goiter, geographical distribution is undoubtedly one of the more important. For this reason the geologic formation of the various goitrous districts should be more carefully compared with a view of possibly discovering some factor com-

14. Werelius: Surg., Gynec., Obstet., August, 1910, pp. 152-156.

15. Hunt: Jour. Biol. Chem., 1905, 1, p. 13; Jour. Am. Med. Assn., 1907, xlix, pp. 240, 1393.

16. Hunt and Seibel: Hyg. Lab. Bull. 47, Wash., 1909.

17. Shephard and Duval: Ann. Surg., July, 1909, vol. i, p. 84.

mon to all. Goitrous districts differ as to the species of mammals affected. In some of these goitrous territories for man I understand no struma is seen among the domestic animals. In Chicago, which is a goitrous territory for dogs (Carlson, Werelius¹⁸), there are, for instance, few or no cats seen with goiters. Whether this region is goitrous for man it may take centuries to demonstrate.

It is certain that there is an enormous number of goiters among children at puberty. Dr. Thos. Rothstein and I intended to make an extended examination of Chicago school children, but were refused permission. However, in spite of this, we examined a sufficient number to demonstrate to our satisfaction that the number of strumous children here is much greater than anyone would expect; and although the great majority of these goiters probably are physiologic, quite a number are not, and of those that are physiologic quite a number will undoubtedly become pathologic.

As to surgery of the thyroid, the immediate results following thyroidectomy in exophthalmic goiter have certainly been very excellent, when the operation has been performed by the masters. Probably in few other conditions is the outcome so dependent on the man behind the knife. The result in cases handled by inferior men has been, I am afraid, very disastrous, and if true reports were attainable they would furnish a very dark chapter in modern surgery. I earnestly believe that in the near future the less radical operations will almost entirely supplant resection in Graves' disease. The object of any operative procedure in this condition is, of course, to lessen the glandular secretion, and this can often be done as effectively by tying vessels as by resection, and certainly with a great deal less danger. Undoubtedly, many of the fatal results, even in the best hands, might have been averted by using less radical methods.

Then again, we should not forget that Basedow's is a limited disease, and when the condition has spent its force the need of an intact thyroid may be of the greatest necessity, important as the organ is to normal metabolism.

It might be that following this great hyper-activity of the organ, there may come a period of somewhat lessened activity, which, in an intact thyroid, may not manifest itself symptomatically, but in a case in which most of the gland has been removed, the demand on the remaining portion may be too great, resulting in permanent impairment with consequent myxedema.

No line of treatment will, of course, be without mortality; in fact, cases reach stages where no relief is possible.

In a disease such as exophthalmic goiter, that in its severer forms spares no organ, many deaths are due to causes only indirectly connected with the thyroid, and in such cases practically dying from a combination of pathologic changes outside of the thyroid, it is only natural that surgery of this organ (which then probably in many instances has ceased hypersecretion) will not avert but rather hasten the fatal outcome.

18. Jour. Am. Med. Assn., July 17, 1909, liii, 172-178.

ON ACTIVE IMMUNIZATION IN TUBERCULOSIS *

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CHICAGO

The specific treatment of tuberculosis has passed through certain phases which appear to be repeated at present in the case of syphilis and its *therapia sterilisans magna*, according to Ehrlich. Announced modestly and conservatively, and without any undue claims by its originator, Robert Koch, it was soon subjected to an improper and undignified newspaper notoriety, and was accepted and employed by the profession with excessive expectations, without a sufficient knowledge and appreciation of the biologic principles involved, was administered with no care whatever in the selection of cases, and in excessive doses. Small wonder that the "new remedy of Koch" was damned almost from the beginning and that the acclaim and enthusiasm with which it had been received were very soon changed to disgust and distrust. Let us take care lest history repeat itself in the case of "606" and let us leave it exclusively in the hands of syphilographers until its possibilities and limitations, its indications and contraindications, its dosage and its dangers are clearly defined. The idea which appears to exist in many minds, that the end of syphilis is in sight, is just as absurd as is the assertion that tuberculosis will be exterminated in thirty to fifty years, and the disappointment is bound to impair the possible benefit derivable from the remedy. Some of the greatest possibilities of progress have suffered and been harmed most through their friends.

We mean by the specific treatment of tuberculosis its etiologic treatment, i. e., its treatment by the aid of the causative virus. Strangely enough, this attempt to drive out the devil by the aid of Beelzebub is surprisingly close to the Hahnemannian "*similia similibus curantur*" and as a matter of fact our homeopathic brothers claim to have prepared the first tuberculin.¹

Specific treatment may take the form either of active or of passive immunization, the former by means of the various tuberculins and the products of tubercle bacilli, the latter by means of so-called immune sera. Tuberculins and the other preparations used for active immunization (which are usually, but wrongly, also called tuberculins) are either antibacterial or antitoxic and stimulate the formation, in the tuberculous organism, of specific antibodies. They are prepared either from the culture fluid on which tubercle bacilli have grown or from the tubercle bacilli themselves. Sera are obtained from the blood of animals which have been infected with virulent tubercle bacilli. The defensive mechanism in the animal organism leads to the formation of specific antibodies (agglutinins, precipitins, opsonins, etc.) which are demonstrable in the serum. By their direct introduction into a tuberculous organism it had been hoped to counteract the effect of the tuberculous infection. Of the sera I need only say that so far they have not justified our hopes and

* Read before the Chicago Medical Society, Jan. 25, 1911.

1. Wells, G. Harlan: The Hahnemannian Monthly, August, 1910.

expectations. The results obtained by the principal representatives of the kind, the sera of Marmorek and of Maragliano, have been very uncertain and in part unsatisfactory, although truth constrains us to admit that a fair number of favorable reports have been published on the use of Marmorek's serum in local or surgical tuberculosis.

Active immunization is accomplished either by tuberculins or by substances prepared from the bodies of tubercle bacilli. And here I beg leave to differentiate strictly between the two kinds of preparations. Although the "New Remedy" of Koch, introduced in 1890, was at first frequently called "Koch's lymph," it was not and is not a lymph or a serum. The substance known as Koch's old tuberculin, a name first used by Bujwid,² was produced from a 5 per cent. glycerin bouillon on which virulent tubercle bacilli had grown for from four to six weeks, by evaporation to one-tenth of its volume and filtered through porcelain to remove the germs. The final product contains from 40 to 50 per cent. of glycerin, which preserves it. For the production of tuberculin old, heat is required, but this does not exceed 70° C. (158° F.) by the method used at the Hoechst Farbwerke.³ During the process of condensation some of the bacillary proteids are extracted, but they are, at the same time, liable to chemical alterations. It has been shown repeatedly that, in spite of the filtering through porcelain, tuberculin is by no means free from tubercle bacilli, either whole or in fragments, and Dr. Karl von Ruck attributes the immunizing effect obtained from the use of old tuberculin to this fact and to the fact already alluded to that during the condensation to one-tenth of the original amount some of the bacillary proteids are extracted. Wolff-Eisner claims that the endotoxins of the tubercle bacilli present in old tuberculin, which are also substances derived from the bacillary bodies, are responsible for its effect. That such an explanation must be employed appears from the experiments made with 5 per cent. glycerin bouillon, treated in all respects as though it had served as a culture medium and been used for the preparation of tuberculin. The injection of this product caused fever reactions similar to tuberculin but these were in no way characteristic, as are the reactions from tuberculin.⁴

However that may be, we know that tuberculin, consisting principally of tuberculotoxins, is an antitoxic remedy more than an antibacterial one, and this had been insisted on already by Koch in his first publication on the subject.⁵

As you know, the entire absence of a selection in the cases to be treated, the excessive dosage due to the preconceived idea that reactions were desirable, the unreasonable expectations as to its curative power and finally the almost total ignorance of the problem of immunity during the first tuberculin era led to the speedy abandonment of the remedy, to a serious disappointment and disillusion of many and even, especially from French writers, to undignified and unmerited vituperation of Koch.

2. Bujwid, cited by Reeser: *Centralbl. f. Bakt., Orig. Bd.* 46, No. 1.

3. Remedia "Hoechst," 1910, p. 714. Kolle and Wassermann: *Handbuch d. pathogenen Mikroorganismen*, 1904, Bd. iv, T. 1, 2, p. 825.

4. Silvio von Ruck: *Repr. Amer. Jour. Med. Sc.*, April, 1909, p. 8 (literature).

5. Robert Koch: *Deutsch. med. Wchnschr.*, 1890, No. 46 a.

The failure of tuberculin, even though in part due to such powerful agencies as the adverse influence of Virchow, was by no means absolute. Koch himself and some of his pupils and friends, notably Goetsch, Carl Spengler, Petruschky among others, persisted in their investigations and experiments, and in 1897 Koch announced his Tuberculin R., i. e., *Tuberkulin Rueckstand* (residue), or "new tuberculin," which was prepared from virulent cultures of tubercle bacilli dried *in vacuo* and finely pulverized in an agate mortar, after which they are treated with physiologic salt solution.

"The pulverized triturated bacilli are ground and treated with physiologic salt solution, centrifugated, and the supernatant, opalescent fluid discarded ("TO"). The residue from this is dried, ground, treated with physiologic salt solution, centrifugated, and the clear supernatant fluid collected and retained. This process is repeated until all the residue is taken up. The clear centrifugates are united and preserved by being treated with glycerin to 20 per cent. Each cubic centimeter of "TR" is standardized so as to represent 10 mg. of the original dried tubercle bacilli."⁶

The discarded solution obtained by the extraction of ground tubercle bacilli, Koch designated as "TO" and he considered it as therapeutically without value.

Koch's demonstration of specific agglutinins or immune substances in the blood serums of such tuberculous persons as had been treated with tuberculin or other bacterial products led, in 1901, to the production of his *Bacillen Emulsion*.⁷ He had found that these immune substances were capable of precipitating, *in vitro*, emulsions of ground tubercle bacilli and that this precipitation occurred *particularly* with ground tubercle bacilli. Hence he conceived the idea of employing an emulsion of ground tubercle bacilli for the production of agglutinins (ref. 3, p. 712). Koch's bacillus emulsion differs from tuberculin R chiefly in that the entire bacillus is represented, while the "R" preparation contains only a portion of it, the "TC" being discarded. It has the decided disadvantage that the bacillary fragments are not always held in an absolutely even emulsion, and that it even has been found to contain clumps of tubercle bacilli and fragments, which of course, might produce very serious disturbances on being injected. Its use is not always free from fever reactions and from other undesirable by-effects.

In our country it was first of all, and particularly, Dr. Karl von Ruck of Asheville, N. C., who persisted in the assertion that the idea of a tuberculin treatment was correct in principle and that it only required a proper development in order to establish efficient and non-noxious preparations. Partly alone, partly together with Prof. Edwin Klebs, he spent the time subsequent to his visit to Koch in 1890 in constant investigation and produced in 1896 a *tuberculinum purificatum* which was made with low heat, not above 50 C. (122 F.) and contained an additional amount of specific substances from the bodies of bacilli, obtained by boiling *in vacuo* for thirty days at 50 C.⁸

6. Tuberculin, Mulford's Working Bulletin, No. 2, 4th ed., 1909.

7. Robert Koch: Deutsch. med. Wchnschr., 1901, No. 48.

8. Karl von Ruck: Therap. Gaz., 1896.

The growing certainty that for bacterial immunity only the specific substance of the bacillus was of real value, which had led Koch to the production of tuberculin R in 1897, resulted in the same year in the preparation of von Ruck's watery extract of tubercle bacilli which has been used almost exclusively since then in the Winyah Sanitarium, and to a very great extent by many tuberculosis physicians throughout the country. The process of preparing the watery extract of tubercle bacilli was published in detail in the *Therapeutic Gazette* for June, 1897.⁹ One of the important points in it is that the fats and waxes of the bacillary bodies are removed by extraction with sulphuric ether, and as some of the extractives are, according to Arloing, responsible for the occurrence of caseation, their removal is a signal advance. The ideal preparation would be one which contained all the substances of the bacillary bodies which can stimulate the production of antibodies, and also an excess of those extractives which are said to stimulate fibrosis, while the caseating extractives are removed.

I have considered it a simple duty to historical and literary accuracy to call attention to the position which von Ruck has taken regarding tuberculin, because it is usually asserted that Trudeau and Pottenger were the foremost supporters of the specific treatment of tuberculosis in the United States. With all due and proper respect for the great accomplishments of Dr. Trudeau and for the excellent work of Dr. Pottenger, my literary researches have shown that as late as 1901, in a paper¹⁰ read before the New York Academy of Medicine, December 19, Trudeau was extremely lukewarm, to say the least, in his support of tuberculin. The best that he had to say for it then was that he had observed no bad effects, that its sphere was limited to cases amenable to, but preferably treated by climate and hygienic methods. Later, to be sure, Trudeau assumed a more positive position in regard to active immunization in tuberculosis. As to Dr. Pottenger, I am fully aware of the good work he has done and of the enthusiastic support he has given to various specific tuberculous preparations, but nevertheless von Ruck anticipated him in this, since Pottenger's writings are all later than the earlier publications of von Ruck.

It has been asserted that the many modifications of tuberculin which have been prepared, lauded and partly forgotten, are a proof of the unsatisfactory results obtained from Koch's own products and that they speak against the wisdom of attempting active immunization in tuberculosis. I do not admit this. The theoretical possibility of active immunity being admitted it remained to find a remedy which should enable us to produce both an antitoxic and an antibacterial immunity, and of the two the latter appears to me to be the more important one. It has been sufficiently demonstrated in the last ten years that its production is possible, that the administration of preparations from the bacillary bodies stimulates the formation of specific antibacterial substances, and that the best possible clinical results are by this means not only obtained in a shorter time than

9. Idem : *Therap. Gaz.*, June, 1897.

10. Trudeau, Ed. : *Pediatrics*, 1902, xiii, 184.

by general methods alone, but that they are more permanent. This was definitely proved by investigations and inquiries published by Pottenger¹¹ and by von Ruck¹² among others.

One of the first modifications of tuberculin was that of Denys. His *bouillon filtré* is simply the uncondensed culture bouillon on which tubercle bacilli have grown, filtered and preserved. Koch himself had in 1891 given a like preparation to Carl Spengler for investigation and it is known as Spengler's A. T. O.

Other modifications are the tuberculocidine of Klebs, oxytuberculine of Hirschfelder, the tuberculins of Weyl, Vesely, de Schweinitz and Dorset, Béraneck.

The various preparations of Spengler were produced in accordance with his well-known idea of the duality as to infection of pulmonary tuberculosis, the one or the other type usually having the preponderance. He employs the human tuberculin for bovine infection, the bovine tuberculin for human infection, and mixed tuberculins for mixed infection. Von Behring's preparations are, in greater part, secret and therefore need not concern us here. He attempted more particularly a protective immunization against tuberculosis, and his remedies have, to some extent, received the support of veterinarians abroad.

Time does not permit me to enumerate and describe all the different modifications of tuberculin, nor is it necessary, since my principal purpose is not so much to describe, as to assist in popularizing the means for active immunization in tuberculosis, and to show the advantages from their use.

During the last few years there appears to have occurred, in many places, a return to the old tuberculin, possibly owing to the decided support of Bandelier and Roepke, whose excellent text-book has seen five editions in the space of four years. Tuberculin old is made, in Germany, especially by the Farbwerke vorm. Meister Lucius and Bruening in Hoechst a/M; and by Ruete-Enoch, Berlin. In this country the H. K. Mulford Co., Parke, Davis & Co., Alexander, the Bacterio-Therapeutic Laboratory, Asheville, N. C., prepare not only tuberculin but also tuberculin R., bacillus emulsion and Denys' *bouillon filtré*, while the last named laboratories make, in addition, the watery extract of tubercle bacilli (von Ruck).

Before the International Tuberculosis Congress, Washington, 1908, Gabrilowitsch,¹³ the physician-in-chief of the Imperial Sanitarium for Tuberculosis at Halila, Finland, reported on a modification of the old tuberculin for which he claimed many advantages. Obtained exactly like Koch's old tuberculin, it is further subjected to successive treatment with alcohol, ether, chloroform, xylol, so that not only the fever-producing deuterio albumose was removed from the tuberculin, but also other substances which, if not exactly harmful, as Koch had already shown, in any event can do no good to patients who are sufficiently intoxicated by the disease itself and can therefore only benefit from the non-introduction of foreign, even if "indifferent" (?) substances. Gabrilowitsch's tuberculin,

11. Pottenger, F. M.: The Diag. and Treat. of Pulm. Tuberc., New York, 1908.

12. Carl and Silvio von Ruck: Reports from the Winyah Sanitarium, Asheville, N. C., published 1907 and 1909.

13. Gabrilowitsch: Tr. VI Internat. Tuberc. Cong., Washington, 1908.

or "tuberculinum purum," also called *Endotin*, is claimed to possess all the curative and none of the harmful properties of old tuberculin. Especially does it not produce any severe reactions. It is marketed in this country by Morgenstern & Co., New York, and has many excellent results to its credit. I understand that Dr. Leigh and Dr. Tice have used it and I have seen very pleasing results from its employment.

It would lead me too far to enter into the clinical aspects of specific treatment of tuberculosis, and I only wish to quote to you a few instances of what can be accomplished by its aid.

Langenbuch and Wolff¹⁴ reported on ninety-nine cases of tuberculosis treated with tuberculin and ninety-nine without. Of the first group, thirty-three were cured and forty improved, that is 73 per cent. distinctly benefited. Of the latter group nine were cured and forty-five improved, making a percentage of 54 per cent. that were benefited.

Of 589 first-stage cases reported in literature, according to Pottenger¹⁵ and treated with tuberculin and allied products, 496, 84.2 per cent., were apparently cured, while of 611 sanatorium cases in the first stage, treated without tuberculin, but having all the advantages of sanatorium treatment, 391, or 64 per cent., were apparently cured.

A very instructive tabulation is presented in the last report from the Winyah Sanatorium.¹⁶ Of 782 cases treated from 1888 to 1908 by general methods alone, that is, without specific remedies, there were discharged as apparently recovered 90, or 11.9 per cent., and as improved 238, or 30.5 per cent., giving positive results in 328 or 42.4 per cent. Of 723 cases which, in addition to the usual methods, were treated with tuberculin, or some of its modifications (taking tuberculin in its strictly literal sense) there were discharged as apparently recovered 266, or 36.8 per cent., and as improved, 310, or 42.8 per cent., giving positive results in 567, or 79.6 per cent. Of 1,503 cases treated with the watery extract of tubercle bacilli which, being a bacterial product, as we have seen, confers an antibacterial immunity, there were discharged as apparently recovered 834, or 55.5 per cent., and as improved 508, or 33.8 per cent., giving positive results in 89.3 per cent. And to show that this last remedy is not only of use in the hands of its discoverer, the authors present a collective report on the results of over 100 other physicians who had likewise employed the watery extract, both in institutions and in general practice. Of 2,183 cases, these physicians reported as apparently recovered 1,098, or 50.3 per cent., and as improved, 639, or 29.4 per cent., giving positive results in 1,737, or 79.7 per cent.

An interesting point is the permanency of results after general methods of treatment only, and after active immunization in addition to the general methods.

Inquiries to determine the permanency of results from general methods including climatic treatment have shown¹² that of all cases discharged as improved or apparently cured, there were less than 10 per cent. that

14. Langenbuch and Wolff: Deutsch. med. Wchnschr., 1891, p. 935, cf. Pottenger, loc cit, p. 171.

15. Pottenger, loc cit, p. 172.

16. K. and S. von Ruck: Loc cit, 1909.

had not seriously relapsed, or succumbed to their disease in the course of from two to five years after discharge, and the patients affected by this inquiry belonged very largely to the well-to-do classes who had the advantage of ample means in their search after health.

On the other hand, an inquiry made by the von Rucks (*loc. cit.*, p. 12) on patients treated with the watery extract of tubercle bacilli, between 1897 and 1904 and responded to by 602 patients, developed the remarkable fact that of 400 patients who had been discharged from two to ten years previously as apparently cured, there had continued without relapse 320 or 80 per cent.

Of 202 patients who had been discharged as improved, 94 had continued without relapse, making 46.5 per cent.

Gentlemen, the employment of tuberculin, so-called, or of specific remedies in addition to the accepted general climatic, hygienic and dietetic treatment in tuberculosis is no longer *sub judice*. It is firmly established and immeasurably superior to the general methods alone. According to Bandelier and Roepke,¹⁷ tuberculin treatment and all methods of active immunization have justly been classed among the natural methods of treatment. The substance introduced into the tuberculous organism is not heterogenic. It assists in the formation of products of reaction (antibodies) which the body cannot, unaided, produce in sufficient amount. Specific treatment imitates the processes occurring in spontaneous healing and assists it. It has been shown that favorable cases of pulmonary tuberculosis, but not treated specifically, have in their serum the same substances capable of neutralizing tuberculin as cases treated specifically. Thus specific treatment simply emphasizes and increases the favorable process by stimulating the formation of these substances.

But do not imagine that specific treatment is easy. The treatment of phthisis does not now, and probably never will resolve itself into so simple a procedure as the daily hypodermic injection of a remedy, no matter how valuable it may be, while everything else is left to chance and accident. It requires the most careful and painstaking attention to detail, the closest study of, and watching over, your patients and a constant control of their progress. But it affords a means of leading our patients back to health more rapidly and of benefiting many cases which would otherwise be hopeless.

Although I am firmly convinced of the importance and value of active immunization in addition to the generally accepted means of treating tuberculosis, I would yet warn you most emphatically against adopting these means and methods without a careful study of the questions in bacteriology, biology, immunity, which are involved. Many points turn up in the course of specific treatment which sometimes puzzle the trained specialist, and which might prove serious to the physician who has not learned the method from a master. By all means use specific remedies in tuberculosis, but not until you have learned how. The remedies are like two-edged swords and, in the hands of the inexperienced, are apt to do far more harm than good.

17. Bandelier and Roepke: Lehrb. der spezif. Diag. und Therapie der Tuberkulose. Würzburg, 5te Auflage, 1911.

There are a great many important points in the method of administration, in the making up of solutions, etc., which must be studied, and on which more or less information is given, not only in journal articles and in text-books on the subject, but also in the publications which the various manufacturing chemists who market tuberculin and allied products have printed for the convenience of the profession. These latter "working bulletins" present excellent abstracts from the literature and are very useful. There is a question about the advisability of putting up serial dilutions for the convenience of the physician. In sanatoria and large institutions where many patients are treated, such serial dilutions are of considerable convenience, but in the case of tuberculin, they have the disadvantage of not keeping very well, if weaker than 10 per cent., and it will probably be found best to make up the desired solution at the time of administration. This is very easily accomplished. Some manufacturers furnish separate doses of the dilutions required in sealed ampoules which, if properly made, of course will maintain their efficiency and intactness, but it is not wise to treat patients by schedule, and for this reason such schematic courses of treatment must always be employed *mutatis mutandis*.

NOTE.—I wish to express my sincere thanks to Messrs. Parke, Davis & Co., The H. K. Mulford Co., to Dr. H. M. Alexander & Co., Messrs. Morgenstern & Co., and to Dr. Karl von Ruck, for the courtesy with which they met my request for aid in preparing the demonstration of tubercle bacillus products employed for active immunization in tuberculosis. I should have liked to include the products of the Hoechst Farbwerke in the exhibit, but was informed by their agents, Victor Koechl & Co., that they could not loan me any specimens.

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BISULPHATE OF QUININ IN THE TREATMENT OF ACUTE AND SUB-ACUTE GONORRHEAL URETHRITIS

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A male patient with a rather severe type of acute gonorrheal urethritis presented himself about ten weeks ago for treatment with the usual tale of severe pain at the time of and following the act of urination. To relieve the pain thus suffered I knew of no safe method of procedure to procure quick results. I had a bottle of quinin and urea hydrochlorid tablets that I had been using as a local anesthetic and the thought occurred to me that inasmuch as these tablets were unlike cocain in being practically free from any dangerous results they might afford the case a certain amount of relief and so I made a solution of thirty of these tablets to a gallon of warm water and proceeded to give the patient an anterior irrigation. The patient called me up on the telephone in three or four hours and informed me that my treatment was a wonder as he

had urinated without suffering pain and that it was the first time that the act of urination had been a pleasure for a week. On his appearance next day he reported considerable permanency to the relief afforded by the irrigation the day before and also said the amount of discharge had materially lessened. The thought occurred to me, why wouldn't it be a good treatment to irrigate cases of acute gonorrheal urethritis with a solution of bisulphate of quinin, as it is a powerful germicide and it does not take much of a germicide to kill the gonococci if the solution can only come in contact with the germs; besides, quinin has a certain tonic action to mucous surfaces, and the last and most important property is its action in a greater or less degree as a local anesthetic.

I procured a large quantity of the bisulphate of quinin and determined to give it a thorough trial. I have now used it for ten weeks and have used it in fourteen cases of acute gonorrheal urethritis and my results have been gratifying in most of the cases. I have not secured the results that Valentine claimed for permanganate of potash irrigations, namely, 90 per cent. of acute gonorrheal urethritis cured in fourteen days, but I can safely say 50 per cent. have apparently been cured in the course of two weeks and this result is far better than I have obtained previously. A word as to permanganate irrigations. I believe the use of permanganate solutions produces chemical ulcerations of the urethral mucosa, thus lowering the normal resistance.

Too often my urethroscope has shown these conditions present after a course of permanganate irrigations, even though the solutions used have been weak. Simply think how often the skin on our fingers has become fissured when we hold the irrigator in place and the fingers come in contact with the return flow of the solution.

In using the solution of bisulphate of quinin for irrigation purposes I begin with a solution of 1 to 3,000 and gradually increase the strength to 1 to 1,500. I use the solution as warm as the patient can comfortably bear, with care always taken to avoid mechanical irritation to the meatus by the irrigating tip, and care always taken to see that the flow is continuous by not putting on too much pressure and still put on enough pressure to insure the solution getting well into the urethra. I have also used the above described solutions in two cases of cystitis 1 to 5,000 with good results, and in four cases of chronic posterior urethritis with a fair result. In the later cases I used the solution 1 to 400 in form of an instillation, using the Ultzman deep urethral syringe. As an anterior injection for the patient's own use I make the strength of the solution 1 in 200 to 1 in 1,000.

Internally, I administer oil of sandalwood capsules 10 drops in each capsule given about four times a day if the patient tolerates them well. I am fully convinced that in this drug we have the best there is in the way of internal treatment. From my own experience I should say do not administer hexamethylenetetramin in cases of this character as I have not seen any benefits from its use and I have seen cases where I am certain the formalin irritated the kidneys as well as urethra and added to the complications.

The reason the bisulphate of quinin is used instead of the ordinary sulphate of quinin is the fact that the former is freely soluble in water while the latter is not.

I presume that bisulphate of quinin has been used for this same purpose in the past, as almost every drug in use has at one time or another been used in one form or another as a cure for gonorrheal urethritis; but if such use has been suggested previously I am not aware of the fact.

I do not wish to be understood as having made any great stride in the treatment of acute gonorrheal urethritis, but our treatment has advanced so little in the past that any advance is a real advance.

What I have suggested as to treatment of acute conditions of course does not apply to chronic cases, for the old adage, "Man usually knows when they begin, but God alone knows when it will end," is surely true of that class of cases. When can physicians advise men with chronic cases of this nature to marry is another terrible uncertainty. One thing we can advise our patients, and that is to urinate just as they retire and cause the sexual act to happen just after this and not wait till morning, when there is a great possibility of some pus having exuded from some of the many follicles during the night and thus making the possibility of infection to the wife much greater.

I wish to thank Prof. L. E. Schmidt and Dr. V. D. Lespinasse of the genito-urinary department for their suggestions as to the local anesthetic effect of quinin, as it was from their work that I got my ideas as suggested.

THE TREATMENT OF SYPHILIS; A RETROSPECT AND A PROSPECT *

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Four great and epoch-making discoveries have in recent years changed and enriched our knowledge of syphilis. Following each other in rapid succession and based each on the other they have brought out new facts which our ancestors did not dream of.

1. The discovery of the *Spirochæta pallida* by Schaudinn.
2. The discovery of Metchnikoff and Roux and later of Neisser and others that syphilis can be communicated to apes and even to lower species (rabbits) thus giving the possibility to study experimentally the various pathologic and therapeutic problems.
3. The introduction of serodiagnosis by Wassermann and
4. The introduction of arsenobenzol into the treatment of syphilis by Ehrlich.

What have we gained by these great achievements in regard to treatment?

* Read before the Northwest Branch of the Chicago Medical Society, April 7, 1911.

1. It was proved that treatment must be of a chemical nature (chemotherapy of spirillosis by Ehrlich) abandoning the idea of a serumtherapy and of artificial or natural immunization.

2. It has overthrown the method of starting treatment only with the appearance of secondaries, now that we have the possibility of demonstrating the spirochetes in the primary sore.

3. It gave us the possibility of recognizing and treating latent syphilis through the Wassermann test in cases where there are no clinical symptoms present.

4. It gave us the means by a positive test to find out the inefficiency of preceded treatment in each case and the necessity of repeating treatment in each case irrespective of the old standard of intermittent treatment. These are now the accepted dogmas propounded by most of syphilologists. They lead to the following conclusions in regard to therapeutic action: Start treatment as soon as spirochetes are found in the chancre and continue till the Wassermann becomes negative, that is, go on with increased doses of mercury or arsenic and for indefinite time till the complement in the blood is no more fixed, which alone will be a positive sign that the virus of syphilis, the spirochetes, are killed and forever.

In conformity with these conceptions we are taught to destroy the chancre by excision or whatever means possible, and some go even farther and demand the extirpation of all the inguinal glands and packing of the wounds with mercurial or arsenical preparations, followed by the administration of salvarsan as the best spirocheticide, preferably by intravenous injection, as long as a Wassermann test will show a positive reaction.

This is usually the stand taken by the youngest enthusiasts in modern syphilology. Dogmatic expositions of this kind are mostly preceding or following the uniform publications on the use of salvarsan which are now crowding the medical journals.

Let me therefore start with the latter and give my experience with salvarsan. I regret to say that this experience is limited, more limited perhaps than the experience of many here present.

CASE 1.—Woman. aged 29 years. Infection seven years ago. Had several courses of inunctions and injection treatment. Gummatous lesions appeared eight months ago on elbow and leg. Some healed up under potassium iodid. Last five months ulcerations of palate, one ulcer in middle of soft palate perforated four weeks ago. Patient is distressed in taking food, liquids passing through nasal cavity.

Salvarsan injection February 21. Healing of perforation practically in four days. The gummatous ulcers of the skin began to crust and dry on the second day, were healed in a week. Intermuscular injection into the glutei of 0.5 salvarsan, neutral solution; comparatively slight after effects.

CASE 2.—(Dr. Halvor C. Hanson.) A man, aged about 32 years. Infection three years ago. Had internal treatment of protoiodid pills. Dr. Hanson consulted me about January for persistent mouth lesion of that patient. In view of the apparently insufficient preceding treatment I advised a thorough injection treatment. Eighteen intermuscular injections of 1/6 to 1/4 of mercury cyanid solution was without effect. We therefore decided to use salvarsan and gave him an

intermuscular injection four weeks ago. When patient left the hospital one week after injection the ulcers were not all healed. Dr. Hanson soon noticed a sequester of the bone. On removal, the ulcers have healed quickly.

CASE 3.—(Dr. Julian B. Beck.) Patient, aged 38 years. Infection in 1897. Secondaries disappeared after a course of injection treatment. In 1903 patient lost his *potentia coeundi*; in 1904 paresis of left leg; in 1907 lost control of sphincter vesicæ. Took mercury and potassium iodid without effect.

Salvarsan injection Dec. 28, 1910. Eighteen hours after injection patient gained perfect control of his sphincter vesicæ, had voluntary micturition for eight days, after which the dripping of the urine came back again. Two days after his injection patient has sexual desire and regained perfectly his *potentia coeundi*; his gait of walking improved considerably. On account of the recurrence of the sphincter trouble, a second salvarsan injection was made February 8; regain of sphincter control for two weeks, after which incontinence returned, gait of walking improved still more and his sexual potency is now perfectly normal.

Complications: Severe cystitis after both injections for eight days.

CASE 4.—Patient, aged 42 years. Infection sixteen years ago. Inunction treatment at that time. Free from symptoms till October, 1909, when gummatous lesions appeared around right elbow. Mercury and potassium iodid without avail. Salvarsan injection January 6. Perfect healing of ulcers twelve days after injection. Severe pain in legs for two days and muscular weakness for two weeks.

CASE 5 (Dr. Beck).—Patient, aged 23 years. Primary sore Dec. 10, 1910, healed in two weeks. Roseola and mucous patches appeared with accompanied cerebral and articular pain. February 25, injection of a neutral solution of salvarsan. Headache and pain in joints disappeared eight hours after injection, roseola disappeared in two days and mucous patches in four days.

CASE 6.—Woman, aged 25 years. Infection six years ago. Repeated relapses of syphilitic eruption in quite malignant form, in spite of antisymphilitic mercurial treatment. The last attack consisted in an ulcerating tubercular syphilide of the forehead and ecthyma of the extremities. Salvarsan (0.5) injection February 10. Clearing up of the lesions in two weeks.

That the discovery of Ehrlich is a great step in advance of our means to cure syphilis, nobody will deny; that salvarsan displays magical effects in most cases is now the experience of practically all physicians who have tried the new remedy. That all the latest discoveries have enriched our knowledge, our understanding of the intimate nature of the syphilitic process and our ability to diagnose and control the disease is now a matter of common knowledge. Still the question arises in the conservative mind: Shall we follow the whole length of the new way of treatment which, as I have pointed out in the beginning of my remarks, are now laid down by deductions from these modern discoveries? Are not on close analysis some of these new truths but old doctrines which have been taught generations ago and found wanting?

To start with the initial lesion. It appeals to reason and harmonizes with our new conception of syphilis that the destruction of the chancre will obliterate the source of the first colonization of the spirochetes and may prevent constitutional infection, and that, as it is argued now, if we do not destroy the source of infection completely, we can probably attenuate the disease by diminishing the number of germs. But will it? Did not we reason in this same direction long before we knew of the existence of spirochetes and were not then all attempts at the abortion or

suppression treatment of syphilis futile? Read the latest work of Fournier, undoubtedly one of the greatest syphilologists of our time, and see to what negative conclusions he comes. He quotes cases where not only indurated chancres but abrasions of the penis have been excised as early as twenty-four hours after infection and the result was constitutional syphilis. In excised chancres from one day to two weeks after their formation, the chancre either reappeared on the sore or secondaries followed without it in due time. In the case of Professor Taylor extensive excision of a chancre of only twelve hours' date was followed on the twentieth day by adenopathy and on the fifty-second day by secondary syphilis. And how meager are the results of the very latest experiments. In the last number of Pick's *Archiv* are published by Dr. Grünfeld the results of the Allgemeines Poliklinik in Vienna. Of forty-six cases treated by preventive methods, that is excision of the chancre and early mercurial treatment, chiefly injections of ol. ciner., nine have not developed constitutional symptoms, but of these only four have been over one year in observation, the other five only two to five months. An old truism has again been substantiated by the new science. Animal experimentation has shown that twenty-four hours after inoculation, constitutional syphilis can no more be prevented. Metchnikoff's 30 per cent. calomel ointment is effective only within twenty hours after inoculation. Neisser has checked constitutional syphilis in apes by excision of the chancre only when done not later than six hours after inoculation.

I will admit that even an occasional success justifies the same attempt in every case where excision is possible; but I want to call to your attention that it is neither new, nor have the results changed since the discovery of the spirochetes. The result is still more than doubtful.

One great progress in the treatment of syphilis was stimulated by the discovery of the spirochete, and that is the early recognition and the early so-called preventive treatment of the disease. The theory of waiting for the appearance of secondaries is now quite universally abandoned, though great men, like Zeissl, Kaposi, Douterelepont have advocated it. Their reasons were: early relapses, atypical course, early mouth and throat symptoms, weakening of the effects of mercury when started before the appearance of secondaries. Even now, in the light of the latest discoveries, Blaschko is opposed to preventive treatment on the ground that the early killing off of the spirochetes will prevent the formation in the blood of protective antibodies. The tendency to early treatment is therefore not new. Fournier and Neisser and other great men have all the time demanded the commencement of treatment as soon as the disease has been definitely established and they have confirmed these facts: first, that syphilis treated from the commencement generally shows itself amenable to treatment, is benign in actual symptoms and relatively less severe as regards later manifestations; and second, that on the contrary syphilis treated at a later period is generally more rebellious to therapeutic agents, more prolific in lesions and in relapses and on the whole less curable and more dangerous, a fact which Neisser has lately demonstrated with his experiments on anthropoid apes in Batavia.

Shall we take the Wassermann test as a guide in our handling of cases? Shall we rely on the laboratory only and look to its positive or negative findings? I am afraid to tire you by repeating all that has been written and that you have heard for and against it. We discussed the very same subject sufficiently some time ago, but I must again say that, like the man from Missouri, I cannot follow the Wassermann test before it is shown to me in its visible working, before I know what it really means. Is it a specific test? But its reaction is not confined to syphilis only. It gives the same finding in leprosy, scarlet fever and other diseases. Admitting that leprosy or scarlatina are easily excluded in each case, and that we can ascertain syphilis *per exclusionem*, does it give a measure for the severity of the infection, does it correspond to the gravity of the disease, to the number of microorganisms, of which, we must assume, the disease and its symptoms are an expression? It does not. Cases with florid exanthemata or ulcerated gummata may give a negative reaction, and a latent syphilis without any clinical symptoms a positive reaction. The most constant positive reaction is found in parasyphilis, in which we must assume that the living spirochetes are no more present. We are told that the reaction, that is the deflection of the complement and the retardation of hemolysis, is the reaction of two quantities, the antigen and the antibodies, of which each can be detected with mathematical precision if the other is given, as in an algebraic equation. But are they mathematical quantities? Are they not rather imaginary quantities? Is the reaction the result of an effect of a toxin on an antitoxin, of the antigen on the antibodies? It is not. Instead of toxins (spirochetes from syphilitic liver, etc.), we get the same reaction with an extract of a human heart which has never contained spirochetes or with chemical substances. Now in the last number of Unna's *Monatshefte*, the Wassermann test is reported to give a positive reaction in psoriasis. Of twenty-five cases twenty-three gave a positive, though weak reaction.

Where is the specificity then? How can you base on it your specific treatment? Now it is a fact that most syphilitics, some 80 per cent. of all cases or more, show the reaction; but we know not its nature. Shall we for the sake of this as yet little understood new phenomenon overthrow all our methods of treatment based on rich experience of generations? And how shall we be guided by it? All agree that a negative reaction does not say anything, it can again become positive in a short time. Can under these circumstances a negative Wassermann serve as a guide where guidance is necessary, that is in deciding the advisability of marriage? Again, what conclusions can be drawn from a positive Wassermann without clinical symptoms? Shall we always pour mercury into the patients as soon as a positive reaction appears? Will that not mean deliberate oversaturation and intoxication of our patients? And will not a positive test after a completion of a thorough antisyphilitic treatment drive the patient crazy? For if anything is capable of producing psychopathics a persistent positive Wassermann will do it.

As to the fourth discovery in the field of syphilis, the arsenotherapy, and especially the salvarsan treatment of Ehrlich. From what we already know of this new remedy, from the reports which came from all

over the world of tens of thousands of cases, from the surprising experience every one of us had in the use of salvarsan, we can without hesitation proclaim Ehrlich one of the greatest benefactors of mankind and salvarsan one of the most marvelous remedies offered to the medical profession. The action of the remedy on the symptoms of syphilis is undoubtedly superior to that of mercury. In a large variety of conditions, in many phases of the disease, in the primary as well as in the secondary and tertiary, in ulcerations of the mucous membranes, especially in mouth and throat lesions, in hereditary syphilis of babies, in malignant syphilis, it works much quicker than mercury and often like magic. These are now established facts. Symptomatically it is superior to mercury. Is it also radically superior? Does it cure not only the symptoms of syphilis but syphilis itself more readily than mercury?

Two factors, besides the great scientific authority of Ehrlich, were instrumental in arousing the enthusiasm of the world in regard to "606," first, the claim of Ehrlich that the preparation, in the form as he offered it, is not poisonous, or using his formula, it is "parasito-tropic" and not "organo-tropic," and, second, the extremely fascinating idea of Ehrlich of a "therapia sterilisans magna," an idea which suggested the possibility of curing the disease at one stroke and of giving up mercury altogether, the specific remedy which was our only reliance for centuries. Both of these claims are now found to have been premature and are seemingly abandoned by Ehrlich himself. It has been shown that "606" has very unpleasant, often dangerous effects, and it has been found, even in the comparatively short time of observation, that even high doses of salvarsan do not protect from relapses, that it does not cure the disease.

Wechselmann, an enthusiastic supporter of "606," saw three relapses; Schreiber and Hoppe, ten; Gerone and Huggenberg saw five relapses within seven weeks after a rapid clearing up of lesions. Neisser saw five relapses. Kromayer, Braende and Klingenstein saw in twenty-seven cases five relapses two to three weeks after the disappearance of symptoms. Herxheimer, thirty-three relapses in 789 cases; Linser, four in eighty; Bettman, eight in eighty-seven; Saalfeld, five in thirty-six; Lederman, six in fifty-two. Gerone reports twenty-two relapses in seventy-one cases which he observed within three months. Matzenauer eight in 126 cases; Oppenheim speaks of frequent relapses in secondary syphilis, doubting even the advisability of using "606" in these cases. Similar reports are made by Rille, Bering, Stern, Grouven, Joseph and many others. Cases of absolute failure are also reported, where salvarsan remained without any effect whatever. Bering counts five such cases among sixty-four treated, later on, twenty-five among 211 cases, that is 12 per cent. Pinkus reported two cases, Scholz three cases, Stern eight cases among eighty treated. Welander reports eleven relapses and five absolute failures in forty-six cases.

Is salvarsan so absolutely harmless as to become the standard remedy against syphilis in every case appealing to us for treatment? Aside from the elevation of temperature, pain, nausea, vertigo, tachycardia and different toxic erythemata which are mostly of a transient nature and which

pass away in a few days, cases have been reported where more serious and more lasting effects have been observed. Hoffman has observed dilatation of the right ventricle and systolic murmurs in two cases. Renault severe congestion of the lungs with hemorrhagic sputum. Bering, Schlessinger, Gerone, Finger and others report albuminuria and casts in the urine. Pick saw *retentio urinæ*, a symptom frequently seen by others, also symptoms from the alimentary tract, tenesmus, diarrhea, etc., quite frequently cystitis, dysuria and hematuria. Reports have been made of the distinct neurotropic arsenical action on the optic and acoustic nerves, of which the reports of Finger and Bushke have aroused general interest and discussion. They report paresis of the oculomotorius and levator palpebræ, paralysis of the abducens and, what is more, neuritis and even atrophy of the optic nerve, also deafness and other ear disturbances in consequence of salvarsan injections. At the place of injection deep necrosis of tissue has been observed. Finally deaths due to salvarsan poisoning are reported. Ehrlich himself speaks of only twelve deaths in connection with salvarsan, while from France the reports show larger figures. Hallopeau mentions sixteen, Gautier eighteen cases. In the psychiatric clinic in Halle five cases of death are recorded among thirty-five cases of paralysis, tabes, cerebral syphilis, etc., treated with salvarsan, and they put the fatal results to the credit of arsenical poisoning.

Shall we now in the face of all these reports still continue our unbounded enthusiasm about salvarsan and proclaim it the only specific in the treatment of syphilis to the exclusion of mercury? Shall we join the chorus of all those who surround the triumphal chariot of Ehrlich with the cry salvarsan is the remedy and we are its new prophets?

Have we a reason to abandon all the experience of the past accumulated for centuries for a new dogma which is not yet understood? Shall we relegate mercury to the junk shop? Whoever has read Hutchinson's latest work on syphilis and whoever knows to appreciate that Hutchinson is now the oldest and most experienced syphilologist, a man with a matchless faculty of observation and with the greatest opportunities of doing so in the largest center of civilization, cannot help to be impressed by his statement that he in the long life of his very extensive practice succeeded in curing syphilis by mercury and again he says: "I wish to reiterate in the most explicit terms, as a result of long experience, that everything that mercury can do can be conveniently effected by the small-dose gray powder pill." What a vast distance from the 1-grain, gray powder pill to the 0.6 or 1.2 intravenous salvarsan injection! Have we run this long distance to the benefit of our patients? Even admitting the fact, which cannot be denied, that salvarsan has greater symptomatic curative powers, how often are we confronted with such symptoms which require those powers? And as to the exterminating power of arsenic, it has not proved yet that it is greater than that of mercury. Let us consider for a moment, what is the therapeutic action of mercury? How does it exert its influence in the healing process of syphilis?

A very interesting study was undertaken in reply to this question in Lesser's Klinik in Berlin and published by Neuber in the last issue of Pick's *Archiv*.

It is now an established fact that the human organism contains and produces defensive substances in its fight against invading microorganisms (amboceptors, agglutinins, opsonins, precipitins). These substances are the main force in the process of healing and immunization. They are, according to accepted views (Ehrlich), preexisting in the human body and increased under the stimulus of the invading microorganisms. The source of their production are in all probability the leukocytes, which according to Metchnikoff serve primarily the purpose of defense through phagocytosis. Leukocytosis is therefore a defensive process of Nature and hyperleukocytosis the curative power of the organism, on which process a number of therapeutic measures are now based (Bier's hyperemia). Jarrish painted the skin of syphilitics with turpentine for the purpose of producing hyperemia, Stern administered nucleinic acid internally to produce hyperleukocytosis and both reported favorable results. Neuber has by a series of very ingenious experiments investigated the relation of the leukocytes and the antibodies by counting the first and measuring the complement during the administration of different forms of mercury. It is a very interesting study, because we were still lacking a perfect conception of the antiluetic action of mercury. It surely does not kill the spirochetes. Neisser's experiments on apes have shown that only a very concentrated solution of mercury, by far in excess of human tolerance, is capable of killing spirochetes. Tappeiner says there is no remedy which, introduced into the body, would kill the microorganisms without poisoning the human body itself. The antiluetic effect of mercury must therefore consist in the increased stimulation of the leukocytes and other antibody-producing cells to the production of these defensive substances. The effect of mercury on syphilis must therefore be regarded not as directly destructive on the spirochetes, but constructive on the leukocytes, stimulating to new energies. Indeed, they have found under the stimulation of mercurial treatment an increased leukocytosis and an increase in the complement of the patient's blood.

Another experiment explains the economy of mercury in its action on syphilis. Shulz (Pharmakotherapy) made the following experiment: yeast produces carbonic acid; from the increased or depressed amount of fermentation we may judge as to increased or depressed energies of the yeast cells, whose function it is to produce carbonic acid gas. Shulz has shown that a solution of 0.1 per cent. of sublimate kills the yeast cell, a solution of 0.01 per cent. suppresses the fermentation and a dilution of 1 to 700,000, on the contrary, stimulates and increases the formation of carbonic acid to a very large extent.

This permits an insight into the working of mercurial treatment and explains many phases in the history of mercurial treatment; it explains why the large doses (salivation) of the previous centuries have given such unsatisfactory results and we comprehend the therapeutic mechanism of Hutchinson's method and the mode of action of his small dose pill.

Summarizing now my considerations of the practical value of the new achievements in the treatment of syphilis, I would say:

1. With the great help of the spirochete finding in the early stages of chancre, it has advanced our views by demonstrating the need of early

constitutional treatment. As to the excision of the chancre we may hardly expect better results now than we had before.

2. The Wassermann diagnosis is still uncertain in its meaning, difficult in its exact performance and too capricious in its appearance to be assigned a predominant place in the diagnosis and a guiding value in the treatment of syphilis. We must still be guided by clinical symptoms in the first place.

3. Salvarsan is undoubtedly the most effective remedy in the treatment of syphilis, but because it has such a powerful action on the organism it is not and cannot become the sole method of treatment. I believe that of all the opinions expressed about salvarsan the most acceptable is that of Unna who says: "Salvarsan does not substitute and exclude mercury but complements it. The question is not salvarsan or mercury but salvarsan and mercury each in its place." His indications for salvarsan are: (1) lesions of mouth, throat and nose; (2) pustular syphilids of the secondary and ulcerated, serpiginous and gummatous syphilids of the tertiary periods; and (3) malignant syphilis. In general he recognizes the indication for salvarsan in cases (1) where a rapid action is required, as in gummata of vital organs or in hereditary syphilis of the newborn; (2) where there is an idiosyncrasy against mercury; and (3) where mercurial treatment was of no avail.

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TECHNIC FOR THE INTRAVENOUS INFUSION OF THE EHRlich-HATA PREPARATION ("606") FOR THE TREATMENT OF SYPHILIS

L. BLAKE BALDWIN, M.D.

CHICAGO

1. *The Preparation of the Fluid for Infusion.*—A hermetically-sealed glass tube contains a dose of the *Dichlorhydrat-Dioxydiamido-Arsenobenzol*.

The powder is put into a sterilized measure containing 30 to 40 c.c. of sterilized hot water and brought into solution. It is best to pour the powder into the hot water. The solution of the powder usually follows by itself in about fifteen minutes, or at times it may be necessary to stir the solution with a sterilized glass rod. It is to be particularly observed that the solution is absolute and complete, and that no undissolved particles or swollen particles of the preparation are present.

The solution is now poured into a sterilized chemical flask containing 200 c.c. of sterilized physiologic salt solution of body temperature.

By the addition of one fifth solution of normal sodium hydrate the dichlorhydrate is precipitated and the base is liberated. The precipitate is of a flaky nature which, however, again passes into solution by the further addition of solution of sodium hydrate. As a rule 0.5 gm. of the preparation "606" requires about 20 c.c. of one-fifth normal sodium

hydrate solution. However, it should be closely observed that not more of the solution of normal sodium hydrate is added than is necessary to bring it into solution. An excess should be avoided.

2. *Instrumentarium*.—The necessary instruments: a. A small cylindrical glass percolator.

b. A piece of thin rubber tubing about $11\frac{1}{2}$ meters long, which is interrupted in the center by a piece of glass tube.

c. A thin vein-cannula with needle tips.

3. *Technic*.—a. The skin of the arm is thoroughly scrubbed with soap and water, then disinfected with a solution of corrosive sublimate, ether and alcohol.

b. In order to produce an engorgement of the veins a rubber tube is placed around the middle of the upper arm.

As soon as the veins at the bend of the elbow become prominent the sharp needle-form cannula is inserted high up into the vein. Just as soon as blood flows from the cannula, relieve the constriction of the arm and attach the tube of the solution container to the needle. The time required for the completion of the infusion of the fluid will be about five minutes when the solution is held appropriately high. It is to be especially noticed before attaching the tube to the needle that all the air is expelled from the tube. Also allow no air to enter the vein at the time of the completion of the infusion. When the infusion of the fluid is complete, raise the arm and remove the needle. The punctured wound is covered with a piece of sterilized adhesive plaster, which can be removed the next day.

Outside of the pain produced by introducing the needle into the vein, there should be no after-pain nor any other disturbances at the seat of the puncture. The general disturbance noticed after the administration (if not more than 0.6 gm. dosage) is a slight rise in temperature, some vomiting and diarrhea. In many of the cases, however, even these disturbances may be absent. In the young and robust patients a dose of 0.8 gm. has been used without producing any bad results. It is absolutely necessary that the patients remain in bed twelve hours after the infusion.

A PLEA FOR THE BORDERLINE CASE *

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I can think of no subject which would suggest more needed study or one that should receive more earnest consideration than the subject selected for this paper. Hardly a day passes in the life of a practitioner of medicine that such a case does not come to him to consult, concerning his or her health. People of both sexes, all ages and color, and people in every condition of life suffer with nervous and mental conditions, either acquired or inherited.

* Read before the St. Clair County Medical Society, East St. Louis, Ill., April 6, 1911

The nervous patient and the mentally defective are numerous to-day. They have always been numerous. Since man first selected medicine as his profession, he has met this army of mental and nervous defectives. As the struggle for existence becomes more intense, as people become more affluent in life, do the contributing factors which cause the mental and nervous troubles increase. As man climbs higher in the scale of life, thus bringing increased responsibilities to him, so also the increase in the number of defectives keeps pace. As the intense struggle of the poor man to keep pace with his fellow man increases, so likewise, in his sphere, does the borderline case increase in number.

In the early history of mankind, when all were more or less on a level, when man lived off the fruits of Nature, by plant or animal life, when the hunter or fisherman could step outside his door and get his daily bread and garment, then there were but few of this class of defectives. For plant life grew luxuriantly at his door, and animal life teemed in vast numbers around his abode. It was very easy to get food from fruit and flesh, and clothing from hide, hair and wool of the animal. There was but little in that life to contribute toward the development of the nervous patient, and only since man began to specialize and advance in life have we had any great amount of nervous and mental troubles.

I cannot offer you anything new on this subject, but it gives me an opportunity to make a plea for those unfortunate individuals who suffer from physical or mental, nervous or moral, disease, or a combination of these diseases, who come to us, seeking relief from their troubles.

To these people, so suffering, their troubles are real. We may say to ourselves that they imagine they have pain, or that they cannot sleep, or whatever they complain of. We, who are normal, cannot understand why they should think their troubles real.

A distorted mind sees everything so distorted. To them it is real. We have often listened to the ravings of the maniac, and wondered how he could have such a false conception of the things around him. An eye whose muscular apparatus does not work with its fellow sees things double, sees them distorted, sees them in unnatural relation to each other, and so the mind which is morbid sees all things distorted, and finds pleasure in those conditions which to the normal mind are disgusting and painful.

To understand the morbid mind, we must take the view-point of the patient, and then we will be more in sympathy with him. When we realize that he is mind sick, then we will give to him more attention and patience, and will try to help him out of his miserable self. The neurasthenic, the hysterical or hypochondriac is suffering with a diseased brain, or physical or moral defect which has weakened his mental operations and thus weakened his will power and his moral concepts. In this weakened condition he comes to us for relief.

Most of us have not had early training and education along the line of mental troubles, and when we go out into practice do not fully appreciate this class of patients, and are not able to diagnose their troubles, and thus are unable to treat them properly, but fearing that we may lose

our patient, we go at his case in a random way, giving him some medicine to make him sleep, or a nerve excitant or nerve depressant, not knowing why we do it, but just simply to treat our patient's own diagnosis of the case.

Can't you recall many such cases in your early practice? I think many of us can.

It is not necessary for me to say that we did not do our patients any good; we did them harm, for we fed their already morbid desire for medicine, which was not our only mistake, for these so-called nerve tonics and depressants do an actual harm in most of these cases. I know of no reliable drug for the tired nervous system. I know of no reliable drug for the unstable mental or moral make-up of this class of patient. Then why dose them?

A very large per cent. of these borderline cases have no demonstrable lesion or disease of the brain or general physical body. They are simply individuals whose nerve cells do not work normally.

They are the offspring of parents whose physical bodies were not right. Their cells appear normal, yet they have not the normal amount of energy in them. These are the children of more or less depraved parentage, or else the result of self-abuse on their own bodies brought about by defective living. Then why feed their already morbid desire for drugs? Many of us are responsible for this increased desire for drugs, by giving to them drugs when they were not indicated.

You ask, what will we do with these patients? I answer, study them closely with an earnest desire to find out what is the difficulty, and how to best meet the trouble. Many of these cases cannot be benefited because we cannot handle them as we would.

I heard a most interesting talk by a very intelligent medical man a few years ago, in which he said "that if he could have an auditorium fitted up, and be able to have all his nerve-tired patients meet him every day for one hour and permit him to advise them as to their work and their manner of living, and if he was permitted to remove all the irritants of the home and make it cheerful and pleasant for them, he was satisfied that he would not have to use very much medicine in these cases." By getting rid of the irritating influences in the home and in the workshop, we would get rid of those jarring influences that trouble the over-tired nerves of our patient. To treat these cases as they should be treated, we must become more familiar with the home life and the daily surroundings of our patient. Oftentimes by a better understanding in the home on the part of some or all of the family much of the cause of the patient's trouble will have been eliminated. Nerve tonics or nerve depressants cannot materially affect a jarring household, cannot change a wayward husband, son or daughter, neither can they put love or charity in the home.

So all your drugging of your patients has been worse than no treatment at all, for you have not educated your patient, or his or her family, in the right way to live, and the causes which have rendered your patient sick, and for which he or she seeks aid of you, will go on in the same way.

So I say, that this class of patient needs and deserves much closer study of their ailments and environments than almost any other class of our patients, and so to-day, we make plea for a closer study of our so-called "borderline case."

In the first place, prophylactic medicine, or preventive medicine, is the best medicine. You cannot benefit all of your cases suffering with borderline troubles, but it is our duty to so educate ourselves and our patients that we can hope some day to reduce this army of physical, mental and moral delinquents by attempting to prevent these delinquents.

True prophylaxis or prevention must go even back of conception. It is the duty of the fathers and mothers of our homes to see to it that their sons and daughters may enter into the marital state only with those who are perfectly healthy in body, mind and morals, for only by the union of healthy nerve cells on the part of both the paternal and the maternal elements, can we hope to get an individual with healthy mind, morals and body. In other words, we must educate our people to the fact that the same great laws of heredity apply to the man-animal as apply to all other forms of animal and vegetable life. Breeders of improved animal and vegetable life have long ago recognized the importance of heredity, and the care in the breeding of their animal and vegetable life. So, we who have the health of our communities in our care, should study well this subject and instruct our families as to its application.

I fear that medicine, like all other subjects, is too commercialized to-day. Even our schools and churches are tainted with commercialism. Let us get back to the old time condition, when the family doctor was the family counselor. Our families have gotten away from us. We must get back into the family confidences, for only then can we instruct them in the most delicate subjects that affect the welfare of all the individuals in the home. We shall see to it, that the schools, churches and all other sources of education shall present this subject to the home. Then will the day come when marriages are not considered from the standpoint of money, or of social advantage, but rather from the high viewpoint of individual improvement in the physical, mental and moral make-up of our race. Then will nerve-tire get a setback. Then will there be fewer neurasthenics and hypochondriacs. Then will home and social life and workshops have less irritants, and more stable nerve cells will be the result. Then will you get rid of your borderline cases. As long as we go the pace that kills, as long as marriages take place without due consideration of mental, moral and physical being, so long will we have this vast army of mental and moral and physical wrecks about us.

Throw away your nerve excitants and depressants, and use natural means to calm the over-excited nerves, and to stimulate the under-excited nerves. Use your influence in the home and workshop to get rid of those things which irritate or depress your patients, and then will you apply the natural therapy to your patient. Some twelve years ago it fell to my lot to be the superintendent of an insane hospital in our state, and for four years I had the privilege of studying the morbid and diseased mind, and the treatment thereof.

Early in that career, I appreciated what the immortal Shakespeare so truthfully said many years ago, that "there was no medicine for the mind." By medicine I think he meant drug therapy.

It was my privilege to see some thirty or forty fiends for chloral where it had been given them night after night to quiet their ravings. I instructed my assistant to use no chloral or other medicinal hypnotic, but to see to it that these patients received the hot and cold baths, massage and good milk with oftentimes a little pepper in it. In the course of a few weeks, many of our most violent patients became quiet. I removed all forms of restraint, both physical and medicinal, from those who were in restraint, and was happy to see many of these become our best patients. I am opposed to both physical and medical restraint. I cannot protest too strongly against them. I plead for the eradication of the irritants, and for the use of the normal and natural means and method in the care and treatment of the nervous patient, whether he or she be in the home or in an institution.

We have discussed the necessity for preventing these defectives, but how reach a great mass of borderline cases early in their career, when you cannot reach the home and workshop? Some years ago, I made a plea in our state for a state institution to be built on the cottage and home plan, where patients who could not receive the proper care in the home because of irritants which were making our borderline cases worse, could be sent to these institutions or hospitals, where the most advanced ideas of care and treatment would be carried out, where the patients could be taught self-care and self-reliance, where they might be shown that their ills were those which they might overcome by changing their place of abode or work, where they might be shown that their stomach and bowel, or other physical ailments, were not real, and that by self-assertion they could overcome much of their trouble.

In other words, make an educational institution as well as a hospital out of it. By this combined treatment, we could save individuals from a miserable existence. We build institutions for them after they become hopelessly gone. Why not build institutions to try and save them from their wretched condition which oftentimes leads to the lunatic asylum or worse? No response has come from that early plea, yet I believe the day will come when we will have this home and school for the borderline case, where such patients can be made to see themselves as they are, and where they will be brought to the point of self-assertion and control, and thus be enabled to go into the world and lead fairly useful lives.

I am now going to touch on a very delicate point. I would advise and earnestly plead for the unsexing of the incurable borderline case. Why permit children of such parentage to come into the world, and oftentimes become more miserable than their parent? The child of such a defective may not be as fortunate as the parent. Instead of simply being a harmless borderline case, you may have an epileptic, a feeble-minded child or even a criminal. I am urging this only in extreme cases.

While I am on this subject, I will say in passing that I was one of the earliest advocates in the country for unsexing the confirmed criminal.

the epileptic and the feeble minded. It is no hardship on the individual, but a Godsend to the community to stop this army of defectives from burdening our state and homes, but here again we plead for prophylaxis, or preventive measures.

So, if you have followed us, we have more hopes in educating the home, so that fewer borderline cases can arise, in ways for prevention of increase of these cases. And we believe more in education of borderline cases, if he or she is able to take it, and also in the right mode of living in the avoiding of irritants, than in all your drug therapy. I am a nihilist in drug therapy, as applies to those cases in most instances. We hope that through this short plea for the borderline case we may at least arouse interest in the subject in those present, and that we have said something which may redound to the betterment of this unfortunate class of our patients. The hope that some of our friends present may give us some valuable suggestions on this class of cases, whereby we may all profit, was the reason for this paper. Educate ourselves in this line of thought, educate the homes we enter in our work, educate the young people we come in contact with, and time will show a rich fruitage from our efforts. Our race will be immeasurably blessed thereby. Heredity and environment are the two great forces through which all improvement must come to the race. Let us never tire in our efforts to improve our race. Let not the dumb animal and plant make greater progress or improvement than the man-animal.

Let us no longer think only of prescription for some drug to be taken by our patient, but let us get at the causes that work in each of our individual patients, if it can be done. For those that are hopelessly gone, let us at least advise that no children be brought by them into the world to burden the coming generation. Let our best efforts be put forth in the betterment of the future man and woman. We will thereby have rendered most worthy services to our kind. Let us plead for better home conditions, for improvements in the workshop, for the elimination of the many conditions which bring about this undermining of the body, physically, mentally and morally.

In other words, our profession is to become more and more as it has been in the past, a medium for the dissemination of true living.

Our schools and pulpits must join us in this work, and most of all, journalism must help us. We can only reach the people, and do work for our race when all these great factors work together. We hope that the day will come when the physical, mental and moral qualities of our race will be so improved that we will not have these morbid individuals in our world.

Truly the millenium would be here, and I especially ask your consideration of this idea of the state providing these institutions for the education and treatment of the nerve-tired patients, the hypochondriacs and the neurasthenics, and thus save those whom we cannot reach in their environment of home or work, and who have not the means themselves of seeking other environment.

Think of this, and if it appeals to you as it does to me, perhaps this paper will not have been in vain.

I must plead again for a closer study on our part of each individual patient, the application of the true therapy, whether it be educational or medical, or change of environment, or whatever our patient may need. You will then help save to the family and to the state vast numbers who are miserable themselves, and who make all around them likewise miserable, for a home cannot be a home when it is cursed with one of those unfortunate members of society.

TREATMENT OF HEMORRHOIDS UNDER LOCAL ANESTHESIA *

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In presenting this paper I have no pet operation to boost or technic to describe. When you look through your text-books and see the variety of procedures described it is evident that the ideal for hemorrhoids has not been found. This is, I think, because they are a result of some other condition which is different or acts differently in each patient. Circumstances and surroundings not only influence the induction of the piles, but also are a factor in your choice of treatment, which sometimes may be operative or again must be tentative.

In women, a hemorrhagic flux sometimes replaces menstruation and in atheromatous or apoplectic subjects this periodic loss of blood lowers the arterial tension and relieves the danger of rupture of the cerebral vessels. In such cases the prudent surgeon declines to remove the individual's safety valve. Hemorrhoids frequently accompany cirrhosis of the liver and here we must never operate because either the wound will not heal, other hemorrhoids will appear higher up or dropsy and a rapid break-down will ensue. The hemorrhoidal veins communicate freely with the portal and general venous systems and all diseases of the liver, heart, kidneys and lungs have an important bearing on the etiology and treatment of piles. Therefore, on your first reception of a hemorrhoidal patient you must ascertain much about his physical condition, his habits and the condition of his piles before you consider his treatment because some are relieved by very simple procedures, others require major operations, and still others are incurable and must not be operated on at all.

Hemorrhoids that are amenable to treatment occur under very different conditions and in all classes of patients. There are many methods, and most of them are good, in selected cases and your treatment is half done when you select your case, determine its proper treatment and know what results to expect. The reason you treat so few rectal cases is not that they are infrequent but rather that your patients do not like to have an operation and particularly to take a general anesthetic and be confined to bed. Patients suffering with piles are prone to use

* Read before the Stock Yards Branch. Chicago Medical Society.

domestic remedies and nostrums until they are physical wrecks from loss of blood and pain, all the time refusing an operation. With our present knowledge, it is not always necessary or wise to give a patient a general anesthetic and keep him in bed or in a hospital three or four weeks irrespective of the variety or condition of the piles. Practically all uncomplicated cases, and they are numerous, may be operated on with local anesthetic at your office or at the patient's home. This eliminates the danger to life from heart, lung or kidney complications of a general anesthetic and lessens the pain and danger of secondary hemorrhage due to vomiting as occur so often after a general anesthetic. Incidentally, it puts dollars cheerfully from the patient's pocket into your pocket.

Hemorrhoids are divided into two great types by the position of their origin, internal or external to the sphincter ani. As the internal type becomes exaggerated and is pulled down by the sphincter, it will protrude externally, but it is nevertheless an internal hemorrhoid and must be treated as such. This differentiation is important because the treatment of each type is different. In fact, each individual case presents peculiarities of its own which demand modifications of the outlined treatment.

Hemorrhoids are ruptured hemorrhoidal vessels. The inferior trunks at the anus or below are covered with skin which stretches but little and the blood is closely confined under tension, thus causing severe pain. The middle and superior hemorrhoidal vessels above the anus are covered with soft, fatty connective tissue which easily dilates, and the tumor may attain considerable size without causing anything but an uneasiness, due to it being a foreign body; but when the hemorrhoid has been pulled down by the sphincter and has protruded for some time the mucous membrane becomes dry and thickened and resembles skin. It is, of course, the end capillaries which more frequently give way, and thus we have a varicose pile when a venous capillary breaks, an angioma or arterial pile if an arteriole ruptures, and when a pile has protruded long and has been bruised and inflamed the areolar structures are changed into connective tissue.

The External Pile.—The patient's story of an external pile is usually something like this: He was perfectly well and while at stool either straining or after wiping himself rather harshly he felt a twinge or sting at the anus and since then has suffered a sharp, continuous pain. This is a thrombotic hemorrhoid and to the touch feels like an enlarged lymphatic. It is usually single but may be multiple. This condition, if found on the skin elsewhere, would be called a blood-blister, and even when you were a child you knew that to let the blood out gave immediate relief. The same treatment holds true here. Rip the tumor open and let out the blood, but whenever you operate about the rectum remember to clean things up a little. I have seen surgeons who would carefully prepare their patient and themselves for a laparotomy begin work about the anus without any further preparation than simply wipe off the anus with a cotton pledget dipped in bichlorid. That will not do. You must

wash the whole area well with green soap and flush with alcohol just as you would cleanse the skin anywhere else. It is not necessary to shave the hair as it does not cause trouble and if removed the subsequent growth feels so much like a pin cushion as to disturb the patient.

The slight operation for thrombotic hemorrhoids may be painlessly performed by freezing the surface with ethyl chlorid. Then steady the parts by holding the tumor between the thumb and forefinger of the left hand and with a sharp-pointed bistoury enter at and passing through its base the pile is split in two. The incision should radiate from the anus because a scar one inch long at the anus in any other than a radiating direction will by consequent contraction make a skin fold which will be dirty and troublesome later. Immediately on opening, the skin retracts and the clot usually pops out, followed by a little oozing. If the clot does not slip out, it is to be picked out with forceps but not squeezed out, as that produces traumatism, breaks up the clot and increases the danger of emboli. Be careful to split the whole tumor, not merely its top. If the patient will strain down during the cutting, it fixes the perianal tissues and also assists in removing the clot. When the clot is removed, you will notice an oozing from one or both ends of the vessel. Therefore, the pile cavity must be packed firmly with gauze soaked in 1 to 1,000 adrenalin solution to stop hemorrhage and prevent the severed edges falling in and glueing together. If this should happen, the sack will refill and the pile reform. In twenty-four hours, remove the gauze but do not use force, as that causes needless pain and hemorrhage. Rather soak it for several minutes with hydrogen peroxid and it will fall out. If bleeding still continues, you will have to repack, but usually the edges have retracted, leaving a shallow granulating wound which heals in a few days. The radial folds fall together and close the wound without sutures. Dress the wound each day to see that no feces lodge to irritate and infect. This is a simple operation but gives universally good results, and nothing else does. Therefore, it is the only treatment. There are two things you must not do. 1. Do not simply puncture the hematoma. That allows a few drops of blood to escape and relieves the pain for an hour or so until it refills and then the pain recurs. 2. Do not apply a leech, because it is dirty and may protract the oozing several days, being both annoying and exhausting. Often the patient does not consult the doctor until the clot has been absorbed, expelled or abscessed and there remains an hypertrophied teat of skin which we know as a cutaneous hemorrhoid. This may also happen unless the wound is well packed open. I never suture the wound, because the suture tracks almost always become infected and instead of hastening you retard healing. The suture pinches and annoys the patient.

Cutaneous Hemorrhoid.—A cutaneous hemorrhoid *per se* causes no symptoms whatever because it is only a skin tag more or less hypertrophied, but owing to its peculiar situation it is liable to frequent trauma from being sat on and when inflamed it comes to the attention of the rectal surgeon. It is also aggravated by improper diet, irregular habits and uncleanness, and requires careful cleansing to prevent maceration,

which causes an offensive discharge. When inflamed, it appears as a hard, edematous, tender mass at the anal margin varying in size from that of a pea to as large as the first joint of your thumb. It is external to the sphincter and if pushed within the anus it promptly prolapses. It is smooth and shining, covered with skin on the outside and perhaps mucous membrane on the inner side. It is necessary to recognize this form of hemorrhoid as it is a connective tissue tumor and not vascular. Scarification gives no relief and attempts to place it within the rectum makes matters worse. The treatment depends on what your patient will permit, tentative treatment for relief and removal for cure. Many individuals go for years with these cutaneous hemorrhoids without suffering by being careful and cleanly in their habits. When irritated, it may be treated expectantly until the inflammation subsides and the pain disappears. Suppuration is exceptional, but the tumor remains larger after each attack than it was before.

Palliative treatment consists of:

1. Rest in bed lying on the face or side (not on the back).
2. Bathing with cold compresses.
3. Apply a soothing ointment such as ung. Rectone.
4. For diet allow meat, green vegetables, fruits and large quantities of water, but avoid starches.
5. Cholagogues must be used judiciously. Each case must be carefully studied for its own peculiarities.

The only curative treatment for these tumors is radical excision. This may be performed under local anesthesia but to do successful hemorrhoidectomies requires close attention to minute details and careful consideration of your patient's nervous temperament and personality.

The base of the tumor is determined and marked by abrading with a scalpel. A 0.5 per cent. cocain solution and 0.5 per cent. of 1 to 1,000 adrenalin solution is used for the anesthetic. The mixture must be fresh. The hypodermic needle should have a long, straight, tapered, sharp point that may be smoothly introduced into the skin, as otherwise it sticks in the outer skin, then jumps through. The patient jerks away and you have to begin again. The oblique portion of the needle's point is laid on the skin at the point of first injection. The integument is drawn tense and by moving the fingers only the needle is pushed steadily in until its mouth is buried in the tissues. A few drops of the solution is injected and a welt arises in advance of the needle. The needle is now advanced into this welt, still keeping it in a plane parallel to that of the tissues and another welt formed. In this manner the line that marked the base of the pile is followed around the tumor. The needle is then carried deeper and the process continued because not only must the hemorrhoid be anesthetized but also its base and the tissues underlying so that the patient may not experience any pain. Filling the tumor with cocain raises the abraded line marking the base of the pile above the level of the surrounding tissues, but this is the line of incision and the tissues will return to the former level when the fluid has been absorbed or has flowed out. Sometimes a couple of bleeding

points need to be picked up and the wound edges approximated with three or four No. 1 catgut stitches. A light absorbent dressing covers the wound. Each day this is removed and the parts douched with warm normal salt solution and fresh dressings applied. The parts must be washed after each bowel movement. The wound usually heals in about a week. In placing the stitches, be careful that the edges are well coapted and no raw surfaces left, as such places are very painful and delay healing. If one of these spots is accidentally left it will be covered with granulations, which should be clipped off close to the surface. The sutures must be placed as soon after the tumor is removed as possible, because when the blood escapes the anesthetizing fluid is also lost and sensation soon returns. It is sometimes surprising to see a tumor dissected away painlessly and then have the patient complain considerably when the stitches are put in.

Internal Hemorrhoids.—The internal hemorrhoids constitute one of the most frequent, painful and troublesome conditions about the anus. They begin in the capillary anastomoses between the portal and caval systems, usually just within the anus and extending up a variable distance, involving larger vessels and plexuses. These vessels being just under the mucous membrane may distend easily until they are caught in the grasp of the sphincter which then continually tugs at them until they protrude. The suffering caused depends on the extent of inflammation, ulceration or strangulation of the pile and is also responsible for other rectal, vesical or prostatic, uterine or reflexed pain and disturbances. There is also produced a sanious discharge which causes a persistent pruritus and frequently through infection, abscess and fistula. Clinically, we often find a patient with both external and internal hemorrhoids at the same time. The venous capillary usually gives away but sometimes the arterial capillary ruptures. The two varieties must be distinguished because palliative treatment is useless with the arterial variety.

The arterial hemorrhoid is really a nevus. It arises in the anal canal never more than two inches within the bowel. It cannot be felt by the finger and as it does not protrude it must be seen through the speculum.

It attains the size and appearance of a raspberry and is characterized by excessive hemorrhage which is sometimes spurting in type and during which the patient may be exsanguinated. A number of deaths have been reported from this cause. They cause little or no pain, rarely protrude and may occur alone or combined with the internal venous hemorrhoid. If found alone, I use the galvanocautery. The technic is very similar to that which the rhinologist uses when cauterizing the nose. A good sized fenestrated speculum is introduced and the pile engaged in the opening. A few drops of cocain are injected into the pile and the cautery applied at a dull red heat. It is applied momentarily only and repeatedly so as not to radiate heat and yet coagulate the lymph and plug the vessels. Be careful not to cauterize too deeply nor simply sear over the surface. The whole pile must be destroyed down through the submucosa so as to destroy the chief blood supply. The cautery tips are

small and are plunged directly into the pile. The arterial hemorrhoid is usually found singly but rarely two or three may be found. If so, all may be removed at one sitting. After finishing the operation, cover the wound liberally with soda bicarbonate to relieve the pain. I rarely find opiates needed. Each day I introduce the finger well covered with 10 per cent. ichthyol in vaselin to keep the sphincter relaxed and to protect the granulations. The care of the bowels is the same as will be spoken of in the treatment of the venous variety, which we will take up next.

Venous Hemorrhoids.—Venous hemorrhoids are the most common variety of piles and vary so much in size, complications and degree of suffering they cause the patient that no one plan of treatment is applicable for all cases. Where the tumors are isolated and prolapsed they may be removed under local anesthesia at the office. Where they are not prolapsed and where they extend high up in the bowel they are usually complicated with a narrow anus and an hypertrophied sphincter. Under such conditions it is difficult to reach the top of the varicosity and as the whole pile must be removed it would best be done under ether. Of course if all the pile is not removed your operation affords only temporary relief and is otherwise a failure. If several hemorrhoids are to be removed, the operation would better be done at the patient's home, even if under local anesthesia, because if performed in your office there is danger of secondary hemorrhage from a stitch pulling loose by the patient's movements on his way home. Let us divide these venous tumors into:

1. Those that must be treated tentatively.
2. Those that may be removed under local anesthesia.
3. Those that require a general anesthetic and confinement to bed and absence from work for some time.

Venous hemorrhoids may be much relieved by palliative treatment where surgical treatment cannot be instituted either by the patient's refusal, some jeopardizing systemic condition or in aged or delicate individuals. In all of these conditions, unless there is excessive bleeding or strangulation, it is better not to operate but to use local tentative measures, as there is always danger of embolism, hypostatic pneumonia or phlebitis after operation on such subjects.

If the hemorrhoids are inflamed and prolapsed, they must first be reduced. If the patient is seen at his home he should be sent to bed. An upturned chair is placed in a slanting position on the bed and the patient on his knees reclines against the chair. This places him in an extreme oblique lateral position, a posture between the Sims' and knee-chest.

Next paint the whole hemorrhoidal mass with 2 per cent. cocain in 1 to 1,000 adrenalin solution, and then wait twenty minutes because the circulation in this edematous and strangulated mass is slow and the drugs are not rapidly absorbed. Gravity depletes the tissue and the patients' position with the thighs flexed relaxes the pelvic muscles so that the protrusion will either reduce of its own accord or may be easily

replaced. Of course all of it does not belong internal. Probably about one-half does and a lateral sulcus running parallel with the median raphe will usually be found. Internal to this line is mucosa and external to it is skin. This should be remembered because if the whole mass is placed within the rectum the patient will be just as uncomfortable as he was before. That part external to the sulcus is edematous external tissue and sometimes it may be necessary to incise this to deplete it quickly.

After the hemorrhoids have been properly replaced, the whole anal region should be well covered with Rectone ointment covered with gauze compress, and the patient is then let down on his bed stretched out prone. The pad and the buttocks are now strapped down with adhesive plaster reinforced with a T-bandage. If the hemorrhoids are inflamed but not strangulated they should be given a bath of warm slightly antiseptic solution, followed by a cold douche and then the Rectone ointment applied. The patient should lie on his face as long as he can, and then may turn on his side with the hips elevated on a pillow or two. Keep the hips up and do not let him lie on his back. This is important because it will arrest infiltration, hasten resolution and relieve pain more effectively than any other remedy.

The next day, put the patient on his side with the knees well flexed, dilate the sphincter gradually and massage the hemorrhoidal field. Irrigate the rectum and anal canal with sterile water and swab the piles with 1 to 1,000 adrenalin solution and apply the ointment on the outside. If there is much mucus discharge it will be well to inject one-half ounce of aqueous fluid extract of krameria at night.

The bowels must be kept open each day, and it is a study with each patient to find something laxative but not exhausting. Sulphur is gentle in its action, produces a soft, mushy stool which easily slips by obstructions and allays inflammation by its presence in the stool. Castor oil also produces a soft stool, does not create gas and leaves the abdomen relaxed. It is a good plan to have the bowel movements at night that the patient may rest after cleansing and dressing the rectum.

Hemorrhoid sufferers should avoid strenuous exercise, bicycling, riding, automobilizing and railway journeys, as these all maintain a position with the thighs flexed which opens the anus below the internal sphincter, thus losing the anal support. By careful, close attention, these patients can usually be made very comfortable, but of course it is only tentative and not curative.

Removal Under Local Anesthesia.—One of the cardinal reasons for using a local anesthetic is to interfere as little as possible with the patient's pursuing his regular duties. Therefore, too much must not be attempted. Where several hemorrhoids are to be removed, it will require several sittings. Only one or two should be removed on one day. A local anesthetic has a distinct advantage in aged, timid or nervous patients who object to the anesthetic; but you must attempt only cases in which the tumor can be brought outside or the anus is patent. Internal hemorrhoids, bleeding and painful and demanding operation but not protruding to any extent, cannot be satisfactorily removed under a local

anesthetic, because the very first step in the treatment of such a case is careful but thorough dilatation of the sphincters, and that is impossible without a general anesthetic. If the anus is patent, or if you can easily reach the upper limit of the base of the pile without much stretching, you may operate under cocain, but if the pile is a large one the patient should rest in bed for a couple of days. The determination of which hemorrhoids shall be operated on with local and which under general anesthetic is an important matter and yet in a general way we can say most cases may be operated on safely in the physician's office or at the patient's home under local anesthesia, causing but from a few hours to two days detention from business. Where only one or two piles exist, the operation may be performed in the office and the patient sent home after a little rest, but in aggravated cases where a large area is involved or where the blood vessels are atheromatous the work should be done at the patient's home or at the hospital to protect against the chance of secondary hemorrhage.

Technic.—To prepare the patient, give him a soap suds enema of about one-half pint and then let him empty the bowel by straining. This fills the hemorrhoids and causes them to protrude. Place him on the table in the Sims' position and if the piles do not protrude or cannot be brought outside of the anus the work must be done through a speculum. If it is necessary to use the speculum you must dilate the sphincter at least partially with Kelly's conical or a vibrating dilator. If the hemorrhoids have protruded for some time the sphincter will usually be found relaxed and will not need dilating. If you do dilate, use five to ten minutes to relax the sphincter gradually. When working through a speculum, one of the great points in painless manipulation of the sphincter is to evenly distribute the pressure throughout its circumference. By injecting 20 to 30 minims of a 0.5 per cent. solution of cocain into the sphincter muscle just on either side of the posterior commissure at the point of entrance of the lesser sphincter nerves the muscle may be dilated with comparatively little pain. Of course it cannot be divulsed, but why should you do that? Five minutes after injecting the sphincter, introduce a bivalve speculum, open it a little and massage the muscle, but be careful not to tear the mucous membrane. Having opened the anus, you can now reach in, pick up one of the piles and bring it outside or introduce the fenestrated speculum and engage a pile in the opening and work inside. Whatever method is used, the best results are obtained by keeping the tumor at or near its normal position. Dragging it forcibly outside distorts its relations and interferes with placing the scar in its proper angle with the anus.

The particular hemorrhoid having been brought into place, may now be anesthetized by infiltrating as I mentioned earlier with these particulars. The needle must be fine (thin), as a thick needle may be thicker than the capsule of the hemorrhoid and instead of infiltrating you will drive the needle directly into the circulation. Never begin any manipulation, pinching or operating on the hemorrhoid until it is anesthetized. When everything is ready, dissect the pile up from below until a small pedicle is formed. This is transfixed with a fine round needle

carrying a double ligature of fine catgut which is tied on either side. I always use a double ligature if I can because it prevents possible secondary hemorrhage due to slipping. Having tied the suture, cut the tumor off and cut the ligature close. After you remove the hemorrhoid, let the wound bleed a little to wash out any cocain left in the tissues and then apply a compress soaked in 1 to 1,000 adrenalin for a few minutes to stop the oozing. If I cannot dilate the anus enough to ligate the hemorrhoid, I use the electropuncture, which I described when speaking of the treatment of arterial hemorrhoids and which gives good results. Its use, however, requires several weeks because only a couple of applications can be made at one time and about two sittings a week are all that can be endured. If after a couple of weeks soreness is complained of, the treatment must be stopped for a week or two to allow healing. In this work an assortment of straight and curved tips are needed.

After either of these operations there results only a slight oozing, which can be cared for by a small external pad during the first couple of days. The degree of pain following any operation for hemorrhoids depends somewhat on the temperament of the patient but also and to a large degree on the technic and skill of the operator. During the first day I use hot compresses and after that a hot sitz bath for twenty minutes each day. This cleanses the peri-anal region and relaxes the muscles. When the patient lies down do not allow him to lie on his back, because in that position the middle and superior hemorrhoidal vessels in their upper portion are in a vertical position. At the pelvic brim they bend a sharp angle and the abdominal contents are superimposed. All of these obstruct and as the hemorrhoidal vessels have no valves there is a back pressure and a tendency to swelling, a giving away of the stitches, and more pain as well as a delay in repair. Therefore, keep your patient prone or in the Sim's position.

No opiates are needed for pain or for tying up the bowels. If he has been properly prepared, the bowels will not move until a purgative is given. These patients expect defecation to cause terrible pain and I presume their fear acts as an inhibition. The accumulation of flatus in the bowel is frequently an annoyance. If it occurs, urge the patient to void it. If left to himself he usually restrains the desire because he is afraid bleeding may occur and he will often spend a wakeful, restless night when he could have relieved himself without any possible harm.

If the sphincter contracts spasmodically and causes pain, it shows you did not relax it well before operating. It may usually be relieved by hot compresses. I do not use a hot-water bag because of the danger of burning.

Our patients will suffer less pain if we remember:

1. The wound must not reach the muco-cutaneous edge, as that is the most sensitive point at the anus.
2. The wound of one hemorrhoid must not be disturbed when removing another.
3. The axis of the wound must conform to the axis of the anal canal. This coaptates the wound edges and the scar cannot narrow the lumen of the bowel or catch feces.

4. One incision or all of the wounds together must not involve the whole circumference.

5. Hemorrhage must be arrested and you must be prepared for secondary hemorrhage if it occurs.

6. Never use bichlorid of mercury during the operation or in the dressings, because it will set up a teasing diarrhea.

7. Never plug the rectum with gauze or a tube. It cannot do any good and always makes the patient feel uncomfortable.

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RELIGION AND MEDICINE.*

REV. JAS. R. E. CRAIGHEAD.

In submitting this paper I shall not attempt to define the terms medicine and religion, but consider them in the popular sense in which they are universally accepted.

Simply stated, the physician's office is merely to aid Nature, and the true physician never aims to supplant Nature, but to get his patient in harmonious adjustment with her laws. Now the religion of the Bible teaches that the body is the temple of the spirit and should be cared for as such, but straightway after learning this we immediately forget it and begin to mar the temple. In depraved cases the passions and appetites are indulged, especially through drink and licentious living; more commonly, however, we err in overloading the stomach, keeping too late hours, working without sense or system, worrying over trifles and shutting ourselves away from the great health giving forces of Nature—God's out-of-doors. Naturally our bodies rebel, and so the doctors have to take us in hand and make religion practical as it pertains to the keeping of our bodies. It is surprising (and no one knows this better than the physician) how much sickness is due to living out of harmony with Nature. In such cases, medicine's operation should coincide with the principles of common sense and religion—merely get the patient into harmony with health-giving forces and let God operate through Nature. Frequently this will mean not so much pill and fluid as the securing of a right attitude of mind in the patient. For this reason every doctor should be in as full a sense as possible a psychologist. It is because many physicians have failed to work along psychologic lines and have persisted in operating only through pill, powder and vial, that imposters have been able to juggle so successfully with psychical entities in the name of religion and medicine. Religion disclaims these fakers, just as medicine disclaims the quack, and yet both of us have to admit that results are sometimes secured by the religious faker and the medical quack which astonish the orthodox in both professions. It is only, however, as these methods and results stand the tests of truth and time that there is any permanent value to them.

* Read before the Union County Medical Society in Benton Hall, Ill.

It is comparatively easy to lead certain minds beyond their depths and confuse them and then exercise a kind of hypnotic influence over them through suggestion, and I am inclined to believe that many of these modern cures attributed to divine healing have been effected through a kind of hybrid species of practice, partially religious, partially medicinal and very partially suggestive. Both religion and medicine have suffered by this sort of thing. We must recognize, however, that a decidedly close relation exists between body and soul, and this may be affected by diet, environment and suggestion. "One reason why the wild Indian is as cruel as the lion is because he has food that gives him the blood of the lion." A missionary among the Indians says that "by changing his style of food to correspond with theirs his temperament is entirely changed." Now it is the office of medicine to look after the body, while religion cares for the soul, but because of the ramifications of the one through the other neither can be slighted. The man of religion makes a mistake, often fatal, when he treats his body like so much old rubber, as if it were of no consequence. The man of medicine makes an equally egregious blunder when he minimizes the important part played by the religious feeling of his patients, or when he pooh-poohs all religious instinct as so much mere sentiment. There is no gainsaying the fact that the religious instinct is deeply seated in all of us. It may be slaughtered after the manner of an abortion in the early stages of its development; it may be starved to death before attaining its maturity; it may be crushed and mangled by the ruthless treatment it receives from reckless agnostics or inconsistent professors of religion, and so grow up maimed and halt; nevertheless, the religious instinct is deeply seated in all men and may be made to play an important part if rightly appealed to in the healing of sickness and disease. For this reason relations of cordial sympathy and perfect understanding should be maintained between the representatives of the ministerial and the medical professions. It sometimes happens that physicians habitually take every precaution to keep all religious impressions from their patients, forbidding anything like religious conversation and shutting the door of the sick chamber in the face of the minister, as though he were as unwelcome as death. And this, too, in spite of the fact that the soul of the patient is about to start on its long, last journey, and is craving a potion that the doctor cannot give out of his medicine case. He may give it, and often does give it, out of his heart's experience and a knowledge of the power of Christ to forgive and relieve. Every physician should be furnished with this equipment of true religion in order to supply the best service, for there are times when the shadows of death are gathering around the patient, and there is no time to send for a religious adviser; besides, no one is so well fitted as he himself, through the hold he has upon his patient's confidence, to speak the word which will be a message of life and hope unto the soul going out into the beyond. It is better still when a physician makes this a working part of all his professional duties, not merely in the final issue of his cases, when death is coming in for settlement, but in all his practice, making consistent religion to perform a telling part. Then does he stimulate confidence, cheerfulness and hope, which are incalculable aids to his profession.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY

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AUGUST, 1911

IS EGAN UNDER THE CIVIL SERVICE LAW?

Dr. James A. Egan, *de facto* member of the Illinois State Board of Health, elected Jan. 1, 1911, by the Board, the majority of the members of which were *de facto*, for the year, now claims that he comes under the revised civil service law, and is a fixture in that office, only to be removed by complaints filed with the civil service commission. If this were true it might be a very serious matter, and we understand that a great deal of comment has been raised by certain statements written by Egan and published in *The Journal A. M. A.*, and other medical and drug journals in the country. It must be remembered that all these communications were written by Egan himself, and are not authoritative. We understand that the question of the legality of Egan's assumption has been placed before Attorney General Stead, and that the matter may be determined in a very short time. In case the Attorney General should decide that the *de facto* acting secretary elected by a *de facto* vote comes under the civil service law, steps will be taken to push the charges which have been on file a long time against Egan's continuation as secretary. It is proper at this time to state that Mr. Deneen has many times promised to renovate the Board, and his lack of confidence in the present membership is certainly shown by his failure to reappoint the *de facto* members. In this same connection we will say that if some action is not taken by the Governor to carry out his promises before the first of September,

we expect to begin the publication in our columns of the numerous complaints which have reached this office against the board and its secretary. We have refrained from the publication of many of the scandals which have reached us in the hopes that the Governor would see fit to redeem the promises he had frequently made in the past years to bring about a complete renovation of this department of the state government. Suffice it now to say that the permanent foisting of Egan upon the people of the State of Illinois is unthinkable. Rather than submit to this we are quite sure the people of the state would favor the abolishing of the entire department. What they will do to the Governor who is proved responsible for Egan and his Lorimer gang is not a matter of much doubt either.

DR. J. L. GREENE

Dr. J. L. Greene, who has been since 1905 a resident of Illinois, and who was chosen for his well known ability to bring order out of the chaos then existing in the Kankakee Hospital, and who on Jan. 1, 1910, was appointed for a five-year term as alienist member of the State Board of Administration, has tendered his resignation from the latter position to take effect Sept. 1, 1911. It is understood that Dr. Greene leaves to organize a modern institution at Little Rock, Ark., and that he will be appointed professor of nervous and mental diseases in the State University, located in that city. During his residence in Illinois, Dr. Greene has made for himself an enviable reputation, as a man of mental strength and unusual administrative ability. We regret very much that conditions in "poor old Illinois" are such that Dr. Greene cannot see his way clear to remain in the state. The medical profession of Illinois is sadly deficient in men of his character. The impression he has made on the general public is well expressed by the editorial which appeared in the *Springfield State Journal* of July 26, 1911, which we copy herewith:

"STATE LOSES STRONG MAN

"The resignation of Dr. J. L. Greene from the state board of administration is a loss of no small consequence to the commonwealth. In a large measure the success attending the work of that experimental body can be attributed to his knowledge and efforts. Dr. Greene brought to the board a fund of information which has been of priceless value to the institutions of the state. While he was designated as the alienist of the board, his work has covered the entire field of that body's activities. His advice has been sought on all sorts of subjects connected with the institutions and his fellow members, as well as those directly in charge of the state wards, have come to have a great respect for his judgment. The retiring member of the board is going to Arkansas, where he will assume responsibility for the management of the state's hospital at Little Rock, in connection with a professorship in the state university. He is well equipped for such a task, for he combines with excellent professional attainments the practical ability of a well-informed business manager. It is a rare combination."

THE PRESIDENTIAL ADDRESS OF DR. MURPHY AT LOS ANGELES

Dr. J. B. Murphy of Chicago, who has long been prominent before the medical profession as teacher in its principal medical center, and as a lecturer before the leading medical societies, assumed the office of president of the A. M. A. at Los Angeles, and delivered an address which demands consideration. Dr. Murphy touched on a great many points, and suggested certain remedies for some alleged abuses. Out of the great number we can only notice one or two. The most important one of these is the alleged hardship that exists when a member of the A. M. A. in good standing in one county, leaves this county, and is unable to secure membership in some other county or state society affiliated with the A. M. A., and therefore loses his membership in the A. M. A. Dr. Murphy's remedy, as we understand it, is that either this party should be permitted to join the society of a neighboring county, or to force the county in which the party resides to accept him as a member. We are quite sure that if Dr. Murphy had had more experience in the practical workings of societies that he would not have suggested such procedures. We cannot conceive of anything that would be more disastrous to the local societies than to make such procedures compulsory. We have known of numerous cases under this definition in which the greatest injustice would be done if the local organization were required to take such action, or were compelled to permit a member to be received by a neighboring county society. No doubt many of the suggestions of Dr. Murphy are valuable, but at least in this one particular in our opinion his reasoning is at fault. We fear that many of Dr. Murphy's valuable prescriptions are of the shotgun variety, and that the doctors and the people will continue their habits of obstinacy and stupidity to the end of time.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

One of the most provoking incidents of the Aurora meeting was the election of delegates to the Los Angeles meeting of the American Medical Association. President Cotton stultified himself by making an improper ruling. Every one got into a bad humor, and later Dr. Ferguson felt called upon to call the Editor to task for his description of the incident. When it came to the meeting we find but five of the nine delegates were present to represent Illinois, and among them not a single one from Chicago, not a high brow or a low, not a regular or insurgent. There may have been good excuses for the failure of these gentlemen to attend to the duties to which they were elected. If so they should be given to the Society through the columns of *THE JOURNAL*. In the future it seems to us some assurance should be given by the candidates for these important offices that they would faithfully represent the Society before they are elected. Otherwise the fuss that is made about these positions each year seems to be another case of "much ado about nothing."

THE DRUGGIST AND THE DOPE CURE

We have frequently had occasion to refer to the organization of the Pharmacists of Illinois and their official organ in Chicago, known as the *C. R. D. A. News*. Sometimes we have found subjects considered in the *News* worthy of commendation, but more frequently the *News* is distinctly off color. We can hardly believe that this dope cure proposition will be received favorably by the druggists of the state. The latest evidence of perversion we find in the issue of June 24, under the heading "A Profitable Side Line," which we produce herewith.

C. R. D. A. NEWS

SEND FOR OUR

DRINK HABIT

Cured in Three Days

BY THE

NEAL TREATMENT

The Old Established Chicago Hospital where *The Neal Treatment* is administered solicits investigation by pharmacists and physicians with a view to obtaining their co-operation.

The Neal Treatment consists of vegetable medicines administered internally without the aid of hypodermics, and quickly neutralizes and eliminates the alcoholic poison from the system, effecting a perfect and satisfactory cure.

All charges are refunded if a cure satisfactory to patient, relatives and friends is not effected at the end of the three days treatment.

Call in person for demonstration or write for full information and special professional arrangement. Address

The Chicago Hospital

815 East 49th Street, Chicago, Ill.

DRUGGISTS' PROPOSITION

We are particularly interested to know that one Senator James E. Bruce, is the president of these institutions, and that Senator Bruce "will deal liberally with the druggists co-operating with him in developing business." The Senator's legislative experience in Iowa has probably made him expert with "Big Business."

"Have you written to Senator James E. Bruce, president of the Chicago Hospital, for his proposition to druggists? If not do so now.

"When a person wants to be relieved of the liquor habit, whom do they consult first? The druggist, of course (sic). Is it not up to the druggist then to know where to direct these afflicted people—where the most effec-

tive and speedy relief can be obtained? It certainly is. The editor has investigated the situation carefully and is satisfied that every conscientious (?) druggist can refer cases to this institution with perfect confidence. The 3-day liquor cure discovered by Dr. Neal has a wonderful record behind it, and the success of the Neal treatment of morphine and cocaine cases is also quite startling."

"Senator Bruce will deal with C. R. D. A. members liberally for co-operation with him in developing business. Write for terms, literature, etc. Senator Bruce represented Mr. Carr's old district in the Iowa Legislature some years ago, and bears the reputation of being a high-minded gentleman and a public spirited citizen. The Chicago Hospital is but one of the 52 institutions using the Neal treatment and constituting 'the Bruce chain' of inebriate and drug cure sanitariums."

We may expect Senator Bruce, by the aid of the *News*, to make his appearance soon in the halls of the Illinois Legislature at Springfield in company with other fellows from Chicago, who are equally expert in dealing liberally, and in developing business. The advertisement of the Neal Treatment in this same copy of the *News* is worthy of consideration in this same connection, and we insert it here for the delectation of our readers.

A NEW WAY TO EARN VACATION MONEY

Last month we had occasion to refer to the fact that osteopathic diplomas were for sale while you wait by a Chicago osteopathic diploma mill. This month we record The Western College of Osteopathy which has just been located in one of the cheaper rent districts on West Madison Street, Chicago, where osteopathic diplomas are dished out by mail. It is said that two students of Bennett Medical College are making vacation money in this enterprising business way. Anything goes in Chicago. Poor old Illinois.

THE JOURNAL OF THE IOWA STATE MEDICAL SOCIETY

Our neighbor, Iowa, is the latest recruit among the state societies in the journalistic field, and placed its publication under the editorship of our old friend, Dr. D. S. Fairchild, of Clinton. Dr. Fairchild has been honored on numerous occasions by the profession of his state, and has always made good. We predict for the Journal under his management a bright career, and certainly hope that much benefit will result from its establishment. The Journal contains in its announcement issue 56 pages, and is absolutely devoid of advertisements. It is clean and well printed, and does credit to the Iowa Society.

HOW BAD WE ARE; HOW GLAD WE ARE

The Illinois Osteopathic Association met July 24, 1911, at Chicago, with 100 members in attendance. Legislation was the principal topic of discussion. Pauline Mantle of Springfield read a paper on the history

of the legislative fight for recognition of osteopathy in the State of Illinois in 1911. Her paper showed the power and influence of the American Medical Association in politics in the State of Illinois; how they are trying to force on the people of this great commonwealth allopathic therapeutics and are using every sort of obstacle against all other systems of treating human ailments by sending out pledge cards to various candidates of the general assembly, urging them, under ban of being put on the black list, to support measures favorable to the American Medical Association, which they see fit and proper to introduce and to vote against all measures not to their interest.

R. E. Proctor read a paper on "Obstacles to Overcome in Legislation." He said the osteopaths must treat the "legislative problem" as a severe case of sickness, and insisted on the legislature giving the osteopaths, homeopaths and eclectics a square deal, and the people of the State of Illinois the right to choose their own therapeutics and physician.

The following officers were elected for the ensuing year: president, Emery Ennis, Springfield; vice-president, John Lucas, Chicago; secretary-treasurer, A. P. Kottler; Cannedy Wendell, Peoria, and E. R. Proctor, Chicago, trustees for two years.

THE SUPRARENAL SITUATION *

THE UNITED STATES CIRCUIT COURT UPHOLDS PRODUCT PATENT ON THE NATURAL ACTIVE PRINCIPLE

When Vulpian, a French chemist, in 1856 reported that the suprarenal glands of mammals contained a peculiar substance giving certain color reactions with ferric chlorid, iodine and alkalies, and quickly changing in contact with the air and on exposure to light, little might anyone have expected that fifty-five years later this peculiar substance would be the subject of a product patent.

In 1904 the H. K. Mulford Company placed on the market Adrin, its brand of epinephrin, the active principle of the adrenal gland, believing that the pioneer work done by von Fürth and Abel justified it in doing so—and that a product patent on the active principle existing in Nature could not possibly be upheld, particularly in view of the fact that its existence had been recognized for fifty years; that nearly all of its chemical reactions and properties were previously known and described; that its chemical nature had been accurately predicted; that its medicinal virtues had been discovered and put into practical use; and that it had been actually isolated in various degrees of purity in the form of a benzoylated derivative and in the form of a zinc and an iron compound.

The H. K. Mulford Company regarded its product as a substantially different product obtained by a substantially different process from those specified in the Takamine patent and did not believe that the latter

* Contributed.

could—if held valid at all—be construed to cover and include the Mulford product.

Moreover, the H. K. Mulford Company, recognizing that the first object of the patent law is to “promote progress in the sciences and arts,” believed and still believes that the granting of product patents on medicinal substances, whether or not they exist preformed in Nature, are a hindrance to, rather than a means of, promoting progress in the practice of medicine, and used their efforts to defeat a product patent which it deemed to be not only contrary to the object and spirit of the patent law but contrary to the best interests of pharmacologic practice in the United States.

On April 29, 1911, Judge Hand, in the United States Circuit Court for the Southern District of New York, handed down a decision sustaining certain of the patent claims of Dr. Takamine and declaring H. K. Mulford Company products to infringe these claims.

The H. K. Mulford Company wishes to call attention to the fact that in defending these suits it has consistently and at great cost endeavored to uphold its antagonistic position toward the product patent for medicinal substances, believing that product patents on all substances used in medicine work an injustice on the medical and pharmaceutical professions and are inimical to the public good.

The court having decided that the manufacture of Adrin, the Mulford brand of epinephrin (the active principle of the adrenal glands), conflicts with the product patents granted to Takamine, the H. K. Mulford Company will discontinue its manufacture in the form of solution, tablets and hypodermics, until their appeal is decided in the higher court. Other preparations which have contained the Adrin brand of epinephrin will be prepared with an amount of purified extract of adrenals equivalent to the active principle contained in the glands.

NEWSPAPER CRITICISMS OF THE STATE BOARD OF HEALTH

It is a short week that does not bring out some criticism of the State Board of Health in the daily papers. No sooner does the criticism appear than *de facto* president George W. Webster and secretary James E. Egan get busy making their characteristic apologies and excuses for the Board. These usually take the form of the stereotyped confession and avoidance, which we have been hearing for so many years. How long is this state of affairs to exist?

FILES OF PUBLICATIONS OF THE ILLINOIS STATE MEDICAL SOCIETY

Acting on the instructions of the Council of the Illinois State Medical Society, the editor has deposited in the fire-proof stacks of the Lincoln Library at Springfield, all the publications of the Illinois State Medical Society, which he has been able to collect. The series is complete

with the exception of the Transactions for 1855, 1877, 1878. Dr. William O. Ensign of Rutland has a copy of the Transactions of 1855, which he has promised for this file. Any members knowing of copies of the other missing Transactions will confer a favor by informing the editor of their whereabouts, and the possibility of obtaining the same. In order that it may be made a matter of record for the information of all concerned, we append herewith the formal statement of the transfer of these volumes, signed by Henry C. Remann, Librarian of the Lincoln Library, and the Editor. The only other complete file of these volumes is the one in the Crerar Library, Chicago. It has been suggested that a complete index of all these publications be made and furnished each member free of cost. We should be pleased to hear from the members regarding this.

SPRINGFIELD, ILL., July 20, 1911.

The following volumes of the Transactions of the Illinois State Medical Society, and of the ILLINOIS MEDICAL JOURNAL, have been deposited in the Lincoln Library, Springfield. They are the property of the Illinois State Medical Society, and subject to the order of the officers of that organization :

One volume labeled Pro- ceedings	1850-54	ILLINOIS MEDICAL JOURNAL, VOL.	1
One volume labeled Pro- ceedings	1856-59	ILLINOIS MEDICAL JOURNAL, VOL.	2
One volume labeled Pro- ceedings	1860-63	ILLINOIS MEDICAL JOURNAL, VOL.	3
One volume labeled Pro- ceedings	1864-65	ILLINOIS MEDICAL JOURNAL, VOL.	4
One volume labeled Pro- ceedings	1866-67	ILLINOIS MEDICAL JOURNAL, VOL.	5
One volume labeled Pro- ceedings	1868-69	ILLINOIS MEDICAL JOURNAL, VOL.	6
One volume labeled Pro- ceedings	1870-71	ILLINOIS MEDICAL JOURNAL, VOL.	7
Single volume.	1872	ILLINOIS MEDICAL JOURNAL, VOL.	8
Single volume.	1873	ILLINOIS MEDICAL JOURNAL, VOL.	9
Single volume.	1874	ILLINOIS MEDICAL JOURNAL, VOL.	10
Single volume.	1875	ILLINOIS MEDICAL JOURNAL, VOL.	11
Single volume.	1876	ILLINOIS MEDICAL JOURNAL, VOL.	12
Single volume.	1879	ILLINOIS MEDICAL JOURNAL, VOL.	13
Single volume.	1881	ILLINOIS MEDICAL JOURNAL, VOL.	14
Single volume.	1882	ILLINOIS MEDICAL JOURNAL, VOL.	15
Single volume.	1883	ILLINOIS MEDICAL JOURNAL, VOL.	16
Single volume.	1884		
Single volume.	1885		
Single volume.	1886		
Single volume.	1887		
Single volume.	1888		
Single volume.	1889		
Single volume.	1890		
Single volume.	1891		

Single volume.....	1892	ILLINOIS MEDICAL JOURNAL,
Single volume.....	1893	VOL..... 17
Single volume.....	1894	ILLINOIS MEDICAL JOURNAL,
Single volume.....	1895	VOL..... 18
Single volume.....	1896	
Single volume.....	1897	Missing are Transactions of
Single volume.....	1898	1855, 1877 and 1878.

Signed,

HENRY C. REMANN, Librarian,
GEORGE N. KREIDER, Editor.

THE LEAGUE FOR MEDICAL FREEDOM EXPOSED

Collier's National Weekly prints the following editorial in its issue of June 3, 1911:

LIBERTY

Protests from readers have greeted our criticism of the League for Medical Freedom. Also a protest is telegraphed from the California branch of the league. In the minds of most of those who protest, the principal objections are to the following positions taken by us: 1. That the league contains the kind of men who opposed the Pure Food Act. 2. That the activities of the league are against public welfare and frequently surreptitious. Our answer follows:

1. B. O. Flower, one of the nine founders of the league, and now in his second term as president of it, was president of "the R. C. Flower Medicine Company" from 1885 to 1899. R. C. Flower is the notorious quack and general humbug whose latest arrest was as late as 1908. B. O. Flower wrote the league's pamphlets on "Bubonic Plague" and "The Compulsory Medical Inspection of School Children." His views on patent medicine are often expressed. For instance:

I believe that a great majority of the proprietary medicines are infinitely less dangerous to the public than the majority of regular doctors' prescriptions.

2. C. W. Miller, second vice-president of the league, was also one of the founders. In his newspaper, which publishes patent medicine advertising, he has constantly fought the medical profession. Last year one of his addresses against what he calls a "doctor's trust" was delivered to the Dairy Association in Baltimore. We may say in passing that *Collier's* does not believe in freedom to sell tuberculous milk any more than it does in freedom to sell tuberculous meat.

3. Mrs. Diana Belais, a director and also a founder, has appeared before in this paper as president of an anti-experiment society, a well-meaning, ignorant, reckless, and muddle-headed agitator. We are officially informed by the chairman of the "committee on publicity and education" of the league that Mrs. Belais was made a director "because of her courageous efforts to secure a higher law in New York State than the doctors' cruel theories and professional arrogance." Here's to anti-experiment, meningitis, diphtheria, and freedom!

4. Dr. C. S. Carr, who is on the advisory board, edits a pseudo-medical sheet. *Collier's* long ago printed a letter signed "The Peruna Drug Company, per Carr." As editor of "Medical Talk for the Home," he carried advertisements of many of the medicines exposed in *Collier's*

in our series on "The Great American Fraud." He is now editor of the *Columbus Medical Journal*, which he at once turned from an ethical sheet into a sheer fraud. Look at the issue of May, 1909. On the front cover is a picture of Carr himself writing: "All drugs are poison. All druggists are poisoners." On the reverse side is an advertisement beginning: "Prescribe Antikamnia and Codein tablets in la grippe, headaches, etc." Hurrah for freedom and Peruna!

5. George P. Englehard, who is on the advisory board, has for a long time in his journals defended the patent-medicine interests.

6. Charles Huhn, also a member of the board, is a prominent officer in a cooperative patent-medicine concern.

7. Another founder was a member of the advertising agency which is now spending for the league the money which it puts into its advertising campaigns.

The league says it did not oppose any "sanitary or quarantine laws." This statement requires some hardihood, as the hearings of the Senate Committee on Health, and more especially of the House Committee on Foreign and Interstate Commerce, show. It would interest us to know whether the league can point out a single health bill introduced in Congress which it has not opposed. When the leaders wish to oppose a sanitary or quarantine law they do it on the ground that such a law would *indirectly* "lead to compulsory and discriminatory legislation."

The league was nominally born recently, but those who make it up had already as individuals, and even as organizations (such as the Colorado League for Medical Liberty) opposed State and National legislation. A pamphlet published by the Colorado branch singles out *Collier's* for attack, and was written by a notorious quack doctor. In California, which was the special theme of our former editorial, if the league should prevail, the next threat of bubonic plague would be carried out, instead of being suppressed like the last; smallpox might again become a serious epidemic; school children would bear their ills as best they might. A bill was introduced ordering that the Board of Health be composed of two "allopaths" (a school which does not exist but is a hostile term for regular physicians), two homeopaths, two "eclectics," two osteopaths. It did not pass!

Some leading homeopathists and osteopathists, be it said, are in favor of a national health bureau and strongly against the agitations of the league. Dr. Francis B. Kellogg, president of the California State Homeopathic Society, in an address recently said: . . . "In my opinion there is an effort being made to exploit the homeopathic profession by influences and interests which are indirectly but radically opposed to the welfare not only of practitioners of medicine in general, but to that of humanity itself. I refer to the effort to enlist homeopathic support for the so-called National League for Medical Freedom."

Plato complained that in his day doctors made too sharp a distinction between the body and the mind. In our day the best class of physicians frequently recommend faith cure and Christian Science, and the Emmanuel movement is an indication that it is possible for science and religion to work together in healing. Few mere observers rate the benefits that Christian Science has brought to the community more highly than we do. A belief which so frequently brings about an actual improvement in character, disposition, bodily health, and mental atmosphere, deserves the most serious recognition, even by those who regret its

hostility to the progressive science of medicine. It is possible, at times, for clever designers to use members of any faith for disastrous purposes. When R. C. Flower was at the height of his career, in 1907, as manufacturer of diamonds, vender of fake mining stock, wearer of most ingenious disguises, traveler under assumed names, and general artist in gold bricks, he conceived the idea of playing for profit upon the earnest beliefs of the followers of Mrs. Eddy. One of his accomplices, a woman, who also used an assumed name, worked the game with him, and when Dr. Flower, alias Mr. Cortland, took up the cudgels in defense of Christian Science, without being requested to do so, he said:

Not that I am one of its disciples, but I like to see every one FREE TO PRACTICE MEDICINE AS HE WISHES.

Here we have the very words themselves from old Doc Flower. Up with freedom!

Everybody who believes in "freedom" in medicine is within his natural and political rights in supporting this league. *Collier's*, not believing in this species of "freedom," is also within its rights in treating the league as a menace, the make-up, bias, and purpose of which ought to be fully understood.

Correspondence

DR. SIDNEY KUH AND CRITICISM

To the Editor:—In the April number of the ILLINOIS MEDICAL JOURNAL Dr. Sidney Kuh published a personal attack on me of a very serious nature, to which I beg your leave briefly to reply. I might in the first place remark that it is customary for the writer to see that the subject of such an attack gets to know of it. Dr. Kuh has omitted this simple courtesy, and it was only this week that I happened to read his communication.

The gravamen of his charge is that, in sending to press a statement of my contribution to a discussion at the Chicago Medical Society meeting, I falsified this, it being broadly hinted that I did so in order to cloak the supposed faults I had committed when speaking. Now, it is perfectly true that what I sent to press was not word for word identical with the stenographic record submitted to my correction, but this for the obvious reason that it was impossible to do otherwise. Anyone who has had experience of such records of scientific meetings will know how commonly they are erroneous, sometimes to a ludicrous degree. In this particular instance the report submitted to me was in several respects seriously distorted, and was in places totally unintelligible. In saying so I do not wish in any way to reflect on the efficiency of the stenographer, for I am willing to impute all the errors to the fact of my English speech being foreign to him (or her). But—and this is the important matter—I desire categorically to state that without exception all the material sent to press was spoken by me at the meeting, and was contained, however roughly, in the stenographic report submitted to me; further, that from this report I omitted only one passage, which will

presently be mentioned together with my reason for omitting it. Under these circumstances, Dr. Kuh will perhaps understand that until he has publicly withdrawn his charge, with due apology, he may feel sure of having the field to himself so far as I am concerned in any future controversy.

A few words may be added on the individual points he raises. In his discussion of my paper at the meeting he criticised a certain passage under the mistaken impression that I had referred to *tabes*. To this I remarked, in closing, that his inaccuracy here was characteristic of his other criticisms, inasmuch as I had not mentioned the subject of *tabes*. This passage I omitted in the press account, for the simple reason that it was not germane to psycho-analysis, the matter under discussion. On thinking it over since, Dr. Kuh comes to the conclusion that he had made only a verbal slip, and writes (p. 505): "The truth of the matter is, that he (Dr. Jones) had not used the word *tabes*, but rather the term *locomotor ataxia*." In questioning whether my denial comes within the range of justifiable criticism he caustically remarks: "Since the learned gentleman from Toronto is director of a clinic for nervous and mental diseases, it seems hardly possible to assume that he is unaware of the fact that the two terms are synonymous." To which I have to say that here Dr. Kuh has rashly given us another edifying example of the level of his scientific accuracy, for I mentioned *neither tabes nor locomotor ataxia*. When my paper appears in print—a copy of it was sent for publication to the *American Journal of the Medical Sciences* the week before it was read at Chicago—Dr. Kuh will perhaps admit to himself at last that he has made a mistake.

Dr. Kuh defends his criticism of the "Frauenzimmer" and "umbrella" symbolisms, and instructs me to read again Hitschmann's book where they are mentioned. But I never denied that they are to be found in Hitschmann; indeed I would be the last person to doubt the occurrence of such symbolisms, as I have often met with them myself, and as the occurrence of them may easily be demonstrated beyond all doubt by a reference to everyday slang and jokes. What I protested against was the view Dr. Kuh put forward as to the way in which Freud arrived at the interpretation of them, which can only be described as an ignorant caricature of Freud's method of reasoning. I need only repeat my former passage (p. 382) to show that Dr. Kuh quite misses the point of my criticism: "Dr. Kuh says that he cannot agree with the logic of Freud's arguments that *because*¹ the word "Frauenzimmer" in German means woman, *therefore* to dream of a room indicates a sexual thought, and that *because* Freud sees a resemblance between a raised umbrella and an erect penis, *therefore* to dream of an umbrella also indicates something sexual. I surely need hardly say that Freud has never said anything resembling this."

I do not propose to attempt to unravel the confusion in Dr. Kuh's mind on the subject of the unconscious. It is well illustrated by his closing remark on it (p. 507): "I spent a pleasant hour or so attempting to understand how the subconscious (or is it unconscious?) life can

1. Not underlined in the original.

be traumatized (sic!) at a time when it does not exist. I must confess myself incapable of performing the necessary mental acrobatics." I will only say that he might have saved himself this hour of fruitless effort by half a minute's conversation with anyone to whom the subject is familiar, for he would then have learned that a trauma can be inflicted on the conscious mind in early childhood, the memory of which later becomes buried by repression, and therefore unconscious.

Dr. Kuh complains of my "rather severe arraignment" of his criticisms. When, however, someone is invited to open a discussion on a subject of which he has, to say the least of it, a very imperfect comprehension, he deserves a much more severe arraignment than it is in my power to draw up if he misuses the occasion by distorting the views presented in the paper read, so as to compass a grotesque caricature of them that lends itself to cheap ridicule. The apologies for Dr. Kuh's discourteous behavior that I received on the evening of my paper partly reconcile me to the regret I feel at having been obliged to wound his *amour propre*.

I am, etc.,

June 5, 1911.

ERNEST JONES.

DR. LYDSTON'S DISCLAIMER

CHICAGO, ILL., July 3, 1911.

To the Editor:—Kindly take notice that the book published by one A. V. Harmon and one W. J. Jackman, under the name of "Large Fees and How to Get Them," of which I am alleged to be a joint author, is, so far as the use of my name is concerned, a forgery. All persons selling or circulating same, or advertising or reviewing the book in connection with my name, do it at the risk of legal complications. Other journals please copy, and oblige,

G. FRANK LYDSTON.

To the Profession:—Any physician receiving circulars advertising a book published by one W. J. Jackman and purporting to contain an introductory chapter by me, will confer a favor by sending such circulars with the envelope in which they were received to me.

G. FRANK LYDSTON, M.D.

THE JOURNAL IS A GOOD MEDIUM

HOUSE OF REPRESENTATIVES, WASHINGTON, D. C.,
SIXTY-SECOND CONGRESS, June 19, 1911.

To the Editor:—I had no idea your MEDICAL JOURNAL had such a circulation. It seems to me that every doctor in the county has written me for a copy of Bulletin No. 391, and it is all due to your "ad." It was my intention to limit the circulation of it to my own district, but I would not be surprised now to get a request from Jericho or Jerusalem, or any other old place. I will fill all M.D. orders which come in on your account, but for the Lord's sake don't keep the notice in your paper. Take it out quick. Let me know when I can do anything for you here.

Very sincerely yours,

JAMES M. GRAHAM, M.C.

GEO. N. KREIDER, M.D., Springfield, Ills.

COUNTY AND DISTRICT SOCIETIES

COLES COUNTY.

The Coles County Medical Society met in Charleston, July 11, 1911, at 7:30 p. m., at the First Presbyterian Church. The following were in attendance: Drs. McDonald, Ferguson, Coultas, Voight and Freeman, all of Mattoon; H. B. Vannatta of Lerna; Harwood, of Jaynesville; Zepin, Webb, Montgomery, Iknayan, Dudley and Craig of Charleston.

The program was as follows: A paper on "Puerperal Sepsis," by Dr. H. B. Vannatta, of Lerna. Discussion by Drs. Bell and A. T. Summers, of Alexander. Report of Illinois Medical Meeting, by R. J. Coultas, Mattoon. At the close of the program the entire party adjourned to Humphrey's Confectionery, where refreshments were served.

CRAWFORD COUNTY

The annual meeting of the Crawford County Medical Society was held July 13, at the office of Dr. C. E. Price, in Robinson, Ill. The meeting was called to order by the president, Dr. J. W. Carlisle, and the minutes of the previous meeting were read and approved. The following members were present: Drs. Kirk, Davis, Kasdorf, H. N. Rafferty, Firebaugh, T. N. Rafferty, Dunham, Brooks, Price, Martin, Henry, Carlisle and Lowe. The annual reports of the secretary-treasurer were read, and upon motion duly seconded and carried were accepted by the society.

The following motion was made, seconded and carried: That the members of the society be notified by the secretary of their financial standing in the society and members whose dues are not paid before the state dues are paid be dropped from the society.

The following officers were elected for the ensuing year: President, G. H. Henry; vice-president, G. C. Kasdorf; secretary-treasurer, A. Lyman Lowe; censors, C. E. Price, Frank Dunham, C. H. Voorheis; delegate, C. E. Price; alternate, J. W. Kirk.

The election of officers was followed by a paper on "Rabies," by Dr. G. H. Henry, of Oblong. The paper was interesting and the subject was very well handled, the writer going into detail regarding the prophylactic treatment and preparation of the serum. Upon motion the paper was received for discussion, which was led by Dr. Firebaugh and was indulged in to some length by the various members of the society. This was followed by a paper by Dr. Kasdorf on "General Anesthetics," which was instructive as well as very interesting. Upon motion the paper was received by the society for discussion which was led by Dr. Newlin and participated in by the different members.

Dr. H. N. Rafferty presented two very interesting specimens, one of probable tubercular testicle, the other a probable ovarian pregnancy. A motion to increase the annual dues from \$3.50 to \$5.00 was tabled. Upon motion duly seconded and carried the society adjourned.

H. LYMAN LOWE, Secretary.

JACKSON COUNTY

The June meeting of the Jackson County Medical Society was held in the parlors of the Methodist Church at Carbondale, Thursday, June 22, 1911. Doctors present were: Barrow, Etherton, Whitacre of Carbondale; Ormsby, Sabine, Essick of Murphysboro; and Dr. House of DeSoto. Dr. Barrow reported

a case of "Melena Neonatorum," which was ably discussed by those present. A committee of three was appointed by the chair to consult with the States Attorney and correspond with Dr. Egan with a view to prosecuting one L. Haskill of Murphysboro, whose neglect and magnetic healing failed to cure a case of diphtheria, and who did not use quarantine or preventives for the community. The meetings were changed from monthly to quarterly.

MADISON COUNTY

The Madison County Medical Society met in Alton, July 7, 1911, with Dr. W. H. C. Smith, president, in the chair. The following members were present: Drs. Hirsch, Wedig, Sutter, Yerkes, Wahl, Pfeifferberger, Ihne, Hastings, Halliburton, Smith, Schreifels, Ferguson, Armbruster, Burroughs, J. H. Fiegenbaum, Duggan, Taphorn and E. W. Fiegenbaum. Dr. W. O. Fish of Alhambra was duly elected to membership. Dr. A. J. Ihne, of Fosterburg read a paper on "Typhoid Fever." Dr. J. A. Hirsch, of Edwardsville, followed with a paper on "Diet in Typhoid Fever." Both of the papers were strictly up to date scientific reviews of our present knowledge of this disease. The discussion was enthusiastic and participated in by a large number of those present. The use of antityphoid vaccination was thoroughly exploited and highly commended both in a prophylactic and curative way. Expressions of sympathy were conveyed to Dr. I. J. Beard, of Godfrey, who is undergoing an operation in a St. Louis hospital.

The society heartily endorsed the movement to locate the new state hospital for the insane in Madison county and instructed the secretary to convey the action of the society to the State Board of Administration and to sign the name of every member to the communication. Also to write to Governor Deneen asking him to use his influence to have the hospital located in this county.

This society does not adjourn on account of hot weather, but will hold its regular monthly meeting at Granite City, August 4, 1911.

E. W. FIEGENBAUM, Secretary.

TYPHOID FEVER

A. J. IHNE, M.D., FOSTERBURG, ILL.

Typhoid fever, an acute infectious disease caused by the bacillus of Eberth, was known beyond the reach of tradition, but was not clearly distinguished from typhus until 1830 to 1850. Gerhard of Philadelphia called attention to the features which distinguish the two diseases. His account was corroborated by Hale and Jackson. Later Shattuck, of Boston, and Jenner, of London, made important contributions to the subject.

The lesions produced by typhoid fever may be placed conveniently in two groups, viz.:

Primary lesions due to the direct effect of the bacilli on the lymph follicles of the intestines, the mesenteric glands and the spleen.

Secondary lesions due to the long continued fever and to secondary infection.

The lymph follicles become enlarged. From the eighth to the twelfth day the stage of infiltration terminates either in resolution or in necrosis and sloughing. This necrosis results partly from compression and choking of the blood-vessels by cell infiltration, and partly from direct action of the typhoid bacilli. The depth to which the necrosis extends varies. It may extend to or even perforate the serous coat. This necrosed portion becomes detached leaving the typhoid ulcer. In the separation of the sloughs when a vessel is eroded we have hemorrhage. Simultaneously with these changes in the intestine, the mesenteric glands and spleen are enlarged. There is also a catarrhal inflammation of the gall-bladder.

The secondary lesions due to continued fever and secondary infection are found in the liver, kidneys, heart, lungs and arteries. The bacillus which is the specific cause of typhoid fever was discovered by Eberth in the early 80's. Its habitat in the body is in the intestinal tract; the spleen, the liver, the gall-

bladder, the lymph-glands, the blood, the urine, the sputum, the sweat, the vomitus, and the rose colored spots. Outside the body it cannot maintain a permanent existence. It is found in the water, in the milk, and in the soil. Freezing does not kill it, but boiling destroys it. Typhoid usually occurs in young and robust individuals between 15 and 35 years of age, though cases occur in the very young and old.

The occurrence of typhoid fever confers an approximate, though not an absolute immunity against subsequent attacks. In the vast majority of cases the bacilli are swallowed, though it must be conceded that the bacilli may reach the blood-stream through the respiratory organs. The incubation period of typhoid fever ranges from ten days to three weeks. The patient complains of headache, nausea, constipation, bad taste in the mouth, of being feverish, and an occasional nose-bleed. The fever rises day by day until at the end of the first week it reaches 104° or 105° F. The pulse varies from 85 to 120 per minute. The abdomen may be slightly distended.

From the seventh to the twelfth day the characteristic eruption makes its appearance. It consists of distinct, slightly elevated, rose colored spots, appearing in crops of six to twelve and remaining for three or four days. They disappear on pressure but reappear when pressure is removed. These spots are to be found upon the upper part of the abdomen, or lower part of the thorax, although they may appear on the back, sides, or limbs. The fever now remains at 102° to 105° F. for a week or ten days. Headache and prostration are severe. The patient is restless and delirium may be present. The constipation of the first week has been succeeded by a diarrhea. The stools number from three to ten in 24 hours. The severity of the diarrhea depends largely on the degree of catarrh present, particularly in the large intestines, and on the method of feeding. The stools are offensive, ochre-yellow in color, resembling pea-soup, and may be streaked with blood. On standing the stool separates into two layers; an upper, liquid, cloudy layer, and a lower, thick yellow layer containing remnants of food and necrotic crusts of Peyer's plaques. The tongue is dry and coated; sordes collect on the teeth and lips. Retention of urine is common. The morning temperature may be one or two degrees lower than the evening temperature.

At this time, a sudden drop in temperature may be the result of hemorrhage or the occurrence of peritonitis; if hemorrhage the blood appears in the stools from 6 to 12 hours later. In females abortion or premature delivery produce a drop in temperature. The abdomen may be distended and tender. Pressure in the right iliac fossa elicits gurgling sounds. The patient has a short cough, and on auscultation distinct bronchial râles are heard. During the fourth week the fever remits; the morning temperature soon becomes normal and the patient passes into a slow convalescence.

The diagnosis of typhoid fever is comparatively easy in a well defined case. It depends on the Widal reaction, of which we will hear more directly; the step-like temperature record, the rose colored spots, and the characteristic diarrhea. On the other hand it is often impossible to diagnosticate typhoid fever with absolute certainty until the case is well advanced. In such instances the occurrence of intestinal hemorrhage, or a characteristic decline by lysis is helpful.

The prognosis depends, first, upon the severity of the type of infection. A temperature of 104° to 105° F. for four to six days and a pulse rate remaining at 130 or more are dangerous signals. Second, upon the circumstances of the patient. At 40 years and over the system has less resisting power. The poorer the sanitary arrangements, the more unfavorable the prognosis. The puerperal state renders a typhoid patient liable to many accidents. Third, upon the absence or presence of dangerous complications.

What measures have we at our command to prevent typhoid fever? As we look to water as our big source of infection our first thought is the purification of water. This is a problem which is giving the sanitary officers and Boards of Health many anxious hours. In the smaller cities and rural communities, we have to use different means. The present water supply should be examined and

if found impure, a new source of water should be secured. This is often not possible. Then we advise the killing of the bacilli by thorough boiling of all water used, whether for drinking, cooking, or washing. Washington, D. C., was a large typhoid center, and sanitarians said it was due to polluted water. A new slow sand filter was installed and the typhoid rate was higher than for the three preceeding years.

Better reports come from Albany, Columbus, Philadelphia, and Richmond. If we fail to find the source of the infection in the water, we had better look for a typhoid carrier. When found we have a still harder proposition to deal with than infected water. Unless he is of broad mind, we are almost helpless.

Our farm-yards need attention as to drainage and cleanliness. Our vegetables and fruits should not be exposed to infection by the fly that has just left the vault, the barn-yard, or the garbage can.

Anti-typhoid inoculation is giving good results in the United States Army as well as in the British and German Armies. Frankel in 1893 and Pfeiffer in 1896 were among the first to advance the vaccine theory. Since then rapid strides have been made in anti-typhoid inoculation. Recent orders from the War Department make possible compulsory vaccination of an entire garrison in the presence of an epidemic of typhoid fever. In 1909 and 1910, Spooner of the Massachusetts General Hospital called for volunteers among the nurses and ward attendants and had not a single bad result and only a few severe reactions.

Results: 1910 was the first year that no typhoid fever originated in the institution. Dr. Stone of Toledo, Ohio, reports the successful treatment of a typhoid carrier by vaccine. In this case the bacilli disappeared completely from the urine after six inoculations.

According to Gosman of the United States Army, three injections are to be administered. The first dose consists of 500 million. In ten days a second dose of one billion, and in ten days the third dose of one billion.

Anders of Philadelphia in a paper on "The Use of Typhoid Vaccines in Typhoid Fever" read at the 61st Annual Session of the American Medical Association in St. Louis, 1910, concludes his paper as follows: "Finally, in the present state of our knowledge, the value of vaccines for the following purposes must be conceded: 1, as a means of prophylaxis; 2, in suitable cases when continued during convalescence, to prevent relapse; 3, to combat local infections with the typhoid bacillus, as for example, bone suppurations which arise in the period of convalescence, and 4, for the removal of the typhoid bacilli from the feces and urine in the case of typhoid carriers."

The disinfection in typhoid is that of the excreta, the bed and its coverings, and that of the patient and sick room. The disinfection of the excreta is most frequently overlooked or carelessly performed. The vessel should be such that it can be thoroughly disinfected inside and out. It should at all times contain enough of the disinfectant to cover the discharge. Six ounces of the chlorid of lime to one gallon of water is the best solution. Bichlorid of mercury, 1:500, is used or a 5 per cent. solution of carbolic acid.

The bed and body linen should be changed daily, and as often as soiled. The sheets, blankets, and body linen should be boiled for 30 minutes. The mattress should be covered with a rubber sheet. This should be washed with the carbolic acid solution. The patient receives his bath daily and after stools he should be cleansed with cloth or cotton compress wet with solution of mercuric chlorid or carbolic acid. The room should be light and well ventilated. Sheets or mosquito netting should be over the inner openings, these to be kept moist with the solution. If the patient complains of light hurting the eyes, I have placed a light colored parasol so as to protect the eyes.

There is no specific line of treatment in typhoid fever. An appropriate liquid diet is the best. Milk diluted with plain or lime water. Curds in the stool indicate more dilution, or the peptonizing of the milk. Even then it may not be tolerated by the patient. Then we may try butter-milk, whey or sour milk. Meat juices, broths, or one of the infant foods prepared with water. Albumin

water is acceptable to many. Stimulants may be required in severe types, whiskey spurs the flagging heart and combats the nervous symptoms due to typhoid intoxication. Strychnin and the aromatic spirits of ammonia are valuable aids. The intestinal antiseptics are the sulpho-carbolates, arsenite of copper and salol. If meteorism is a prominent symptom, turpentine is indicated.

For the control of the temperature, the cold bath has the endorsement of the profession. When temperature registers 102° F. the patient should be lifted by the aid of sheets and placed in a tub of cold water. The temperature of bath varies from 90 down to 70 according to the patient. An ice cap should be worn and while in the bath the patient should be rubbed. Five to fifteen minutes in the bath should reduce the temperature 2 or 3 degrees. The patient should be placed in bed, dried and covered with a light blanket. If chilly while in the bath or immediately afterward, a little brandy should be administered. In children the cold pack is often better borne than the tub bath. Sponging the body with water and alcohol, where the full-bath is contraindicated as in intestinal hemorrhage, extreme cardiac weakness and peritonitis is a fairly satisfactory substitute.

In the Johns Hopkins Hospital since September, 1908, they have been adding one pound of alum to each tub of water. This on account of the antiseptic properties, and its tendency to precipitate organic matter. It also exerts some tanning or hardening influence on the skin. It is claimed that this is a great prophylactic against the numerous skin infections. The coaltar products should not be used, for they depress cardiac power.

The cold baths and ice cap usually relieve the headache, delirium and insomnia. For the early constipation calomel, followed by the saline laxatives, gives good results; later, colonic flushing is safer. Hemorrhage demands absolute rest and if severe the saline infusion, either by the intravenous injection, hypodermoclysis or enteroclysis, morphin to control peristalsis, and the ice bag to right iliac region, food withheld for 18 to 30 hours. Peritonitis when due to perforation demands surgical intervention within 24 hours or patient passes quickly beyond hope.

Diarrhea calls for special attention when stools exceed three or four in 24 hours. Bismuth, acetate of lead and opium should be given. Late in the disease rectal injections containing the astringents alternating with the antiseptics give brilliant results.

On March 31, 1908, I was called to see Mrs. R., a robust woman in the 50's. Had the usual diseases of childhood, but no severe attack of sickness since 14 or 15 years of age. Had been sick 10 days. She complained of nausea, headache, tired feeling, nose bleed, bowels moving freely and very offensive. Temperature 101.5° F., abdomen distended and very tender. Pulse slightly accelerated, tongue coated. Urine showed traces of albumin by Heller's test. It looked like typhoid to me. Temperature never exceeded 102 and the greater part of the time was absolutely normal. I sent a specimen of her blood to the State Board of Health and their reply was a positive reaction. During the next three weeks stools were the typhoid stool, as to consistency, number, odor, and color. Patient was dismissed.

In closing allow me to call your attention to the editorial in the *Jour. A. M. A.* of June 24, 1911, on "The Present Status of Antityphoid Vaccination," in which it is stated that typhoid was sixteen times greater among the unvaccinated than among the vaccinated troops. During the Spanish War there were 20,738 cases with 1,580 deaths, or one man in every six had the disease, and this was increased to one in every five among those regiments which were left in the United States.

President Taft, in an address delivered to the Medical Club of Philadelphia, declared that of the 18,000, who have been on the Mexican Border for over two months, only one man, a teamster unprotected by vaccination, contracted typhoid fever.

DIET IN TYPHOID FEVER

J. A. HIRSCH, M.D., EDWARDSVILLE, ILL.

Diet in typhoid fever is a subject upon which nearly all physicians are agreed, inasmuch that all food taken by typhoid fever patients should be easy of digestion and assimilation. There should be a maximum of nutriment with a minimum of residue. It is not necessary, however, to feed these cases on an exclusive liquid diet. Milk, when well tolerated, may be relied upon as the chief article of diet. Some patients relish milk and will take it at frequent intervals and in sufficient quantities to maintain proper nourishment. It will be found, however, that the majority of patients tire of an exclusive milk diet in a short time, and some develop a positive disgust for this article of diet.

What is to be done in the way of properly nourishing these cases? The only solution of this problem is a varied dietary. It will be found that, as a rule, patients do much better on a varied dietary than on one consisting exclusively of liquids. When fed more liberally, the patient's strength and vitality are better sustained, there is less emaciation, convalescence is materially shortened and there is not that ungovernable and ravenous desire for food during the convalescent stage.

It must be remembered, however, that wise discrimination and judgment are required in the feeding of these cases. The patient should be fed with reference to his digestive powers. Milk may be given hot or cold diluted with lime water or barley water. If the patient's digestive power is very weak the milk may be peptonized or some of the prepared milk foods may be given. Whey and butter-milk make an excellent addition to the liquid dietary. Well strained vegetable soup has a certain food value and it may be thickened with browned flour. Well cooked powdered rice and arrowroot are excellent foods.

The following articles of diet may be given in the average case with entire safety: strained corn meal gruel, barley gruel, soft crackers, toast with milk, soft boiled eggs, raw egg-nog, gelatin, finely minced lean beef, scraped beef, custards, soft puddings without raisins, corn starch pudding, jellies, apple sauce, junket, ice cream, fruit juices and other well prepared articles of diet which do not tax the digestive powers of the patient.

More reliance should be placed in the patient's general condition, appetite and digestive powers as to the variety and quantity of food permissible than on the temperature curve. We must individualize our cases in the matter of feeding, ever remembering that the digestive powers are more or less crippled, and feed the patient according to his individual capacity of digestion and assimilation; and at the slightest evidence of digestive disturbance, reduce the quantity and variety of food.

It is never advisable to give alcohol in these cases except under certain conditions and indications. During the convalescent stage when there is great prostration, or in feeble people, or in those accustomed to the use of alcoholic beverages it is frequently advisable to give alcohol in some form.

Whiskey, champagne or Tokay wine are of value when stimulants are indicated in these particular cases. When given in sufficient amount and on proper indications they, to a certain degree, serve the purposes of a food and supply a certain amount of heat by stimulating circulation, respiration and digestion. Champagne is usually well tolerated in irritability of the stomach.

Some cases will be encountered where the digestive power is very weak and where nothing is well tolerated except the raw white of egg dissolved in ice water. In severe cases where the intestinal glands are universally involved this makes an ideal food as it does not require digestion and may be given every two to four hours. In these extreme cases where more nourishment is required, coffee with cream may be given alternately, or freshly pressed grape or other fruit juices. In these cases plenty of water must be prescribed in regular doses as the patient is not likely to ask for it and the inexperienced nurse will forget it.

During the convalescent period of these severe cases, great care must be exercised in feeding. New foods should be added slowly and singly and their effects

watched. These patients are likely to have a voracious appetite during this stage of the disease and great care, judgment and discrimination must be used in gradually adding solid foods to the diet, lest disastrous results ensue through irritating the unhealed ulcerated surfaces of the intestines by undigested solid particles of food or the distention of gas.

When diarrhea is present a gruel made of browned flour will be found excellent in checking the too frequent bowel movements. When milk curds are seen in the feces or if there is other evidence that milk is not well tolerated, whey and junket make very good substitutes for milk. Animal broths should not be given when diarrhea is present as they are likely to aggravate this condition.

To recapitulate: Only foods which are easy of digestion and assimilation and which leave the smallest amount of residue to form feces should be given.

The patient's excretions should frequently be inspected for any evidence of digestive disturbance, and if any symptoms develop indicating that he is being fed too liberally, a more restricted diet should be ordered.

The patient should be fed with regularity and restricted as to quantity, not changing from one article of diet to another promiscuously. The best results are obtained by selecting the food best adapted to the case and administering three or four ounces every two to four hours. Other articles of food mentioned may be given two or four times daily for the sake of variety, if well tolerated.

Endeavor should be made to so regulate the quantity and variety of food in each individual case as to sustain the patient's strength as much as possible and keep his vitality at the highest possible point; neither over-feeding with its attendant dangers of causing digestive disturbance, bowel irritation and distention; nor underfeeding, thus forcing Nature to draw too strongly upon the patient's surplus vitality and stored-up fat, with its attendant dangers of great emaciation, general weakness and prostration.

SANGAMON COUNTY

The regular monthly meeting of the Sangamon County Medical Society was held at the Lincoln Library, June 12, at 8:30 p. m. Dr. George T. Stericker, president, in the chair. Dr. J. R. Neal was appointed secretary pro tem. The reading of the minutes of the previous meeting was dispensed with. The president appointed as the committee on arrangements for the next annual meeting of the Illinois State Medical Society, which will be held in Springfield the third Tuesday in May, 1912: Drs. G. N. Kreider, L. C. Taylor, C. M. Bowcock, C. L. Patton, H. T. Morrison.

The address of the evening was on "Diagnosis of Obscure Diseases of the Chest by Means of the Roentgen Rays," by Drs. William Engelbach and R. D. Carmen, of St. Louis. The valuable address and stereopticon views were of more than usual excellence, and were discussed by many of the members. The society unanimously voted not to have the photographs of the members placed in the anniversary number of the Illinois State Register.

The society adjourned to meet the second Monday in September.

J. R. NEAL, Secretary pro tem.

ST. CLAIR COUNTY

The regular meeting of the St. Clair County Medical Society was held at Priester's Park, July 8, 1911, with the following officers and members present; C. S. Skaggs, president; A. E. Hansing, treasurer; and members H. A. Cables, G. C. Otrich, E. R. Duey, C. G. Rayhill, G. E. Hilgard, E. H. Lane, C. W. Lillie, R. H. Campbell, Thomas Hagarty, L. T. Miller, A. B. McQuillan, W. S. Wiatt, H. C. Fairbrother.

The society was called to order by the president and C. W. Lillie was selected as secretary pro tem. Owing to absence of the secretary the reading of minutes and the business session were dispensed with. Dr. Hilgard reported a case of

extrauterine pregnancy and presented the specimen showing the membranes with fetus intact, with the tube through which the rupture had occurred, the rupture being near the fimbriated extremity. Dr. Hilgard also presented a second case with rupture of tube with the result that the patient had very copious hemorrhage into the peritoneal cavity. He also showed a specimen of placenta with two separate sacs with their contents, the sacs being unruptured, from an abortion about the second month of gestation. This case excited an unusual degree of interest owing to the rarity of an abortion of twin pregnancy with unruptured sacs.

These reports were discussed by Drs. Cables, Campbell, Fairbrother, Wiatt, and Rayhill, Dr. Fairbrother mentioning two cases of ectopic pregnancy coming under his observation; one of these had been permitted to go on into the eighth month in the hope that the child might be saved, but unfortunately it only lived a few hours. The mother, however, made a fairly good recovery. The doctor did not favor this delay in operating for this condition.

Dr. Wiatt, in discussion, reported a recent case of ectopic gestation in which the condition had not been suspected, indeed, could not be detected even under the most careful examination by any means usually adopted in cases of pelvic disease, but which was detected during operation for pyosalpinx of the right tube, the left one being found to contain a fetus.

Edgemont was selected as the place of meeting in October. Adjourned.

C. W. LILLIE, Secretary pro tem.

TAZEWELL COUNTY.

The Tazewell County Medical Society met at Morton, Tuesday, July 11, 1911, at 2 p. m. The following papers were presented: "Typhoid Fever," by Dr. T. C. Murphy, Hopedale; "Our State Society," by Dr. F. C. Gale, Pekin; "County Medical Organization," by Dr. E. F. Kelchner, Delavan. The physicians at Morton served a fine lunch for those attending.

WOODFORD COUNTY.

The Woodford County Medical Society met in annual session in the supervisors' room in the court house in Eureka, May 2, with president W. S. Morrison in the chair. The following members responded to roll call: Dr. C. F. Banta, N. B. Crawford, J. I. Knoblauch, W. S. Morrison, H. A. Millard, J. F. Page, and C. B. Higby. The minutes of previous meeting were read and approved. The secretary-treasurer's report was read and approved. A resolution endorsing the movement to ask the legislature for an appropriation of one hundred thousand dollars for the maintenance of a medical department of the Illinois State university was read and unanimously adopted. The applications of Drs. E. R. McBroom and Matthew Everitz for membership in the Woodford County Medical Society were read and referred to the board of censors. After favorable report by the board they were duly elected. A motion was made and carried that the president appoint a committee of three to draw up resolutions on the death of Dr. E. A. Wilcox. The following committee was appointed: Drs. N. B. Crawford, James Tweddale and H. A. Millard.

The following officers were elected for the ensuing year: president, J. I. Knoblauch; vice-president, C. B. Higby; secretary-treasurer, H. A. Millard; delegate to State society for 1912 and 1913, H. A. Millard; alternate delegate to State society for 1912 and 1913, W. S. Morrison; censor for three years, to May, 1914, J. F. Page. Motion was made and carried, unanimously, that we hold our October meeting in Eureka. Free and enthusiastic discussion was indulged in by all present on many topics pertaining to the good of the society. Dr. J. I. Knoblauch then read a very able and interesting paper on "Puerperal Eclampsia," which was freely discussed by all present. The meeting then adjourned in regular order.

H. A. MILLARD, Secretary-Treasurer.

REPORT OF COUNTY SECRETARIES' CONFERENCE

The fifth annual session of the County Secretaries' Conference met in The Peoples' Church in Aurora on May 16, 1911, at 3 p. m., with Dr. D. G. Smith, president, in the chair. There was a larger attendance than at any previous meeting held by this section. The papers read were of high order and were discussed with interest and enthusiasm.

Dr. H. G. Langworthy, of Dubuque, Iowa, read a paper of unusual interest entitled "Important Features for County Medical Societies."

"Doctors in Politics" was then presented by Dr. L. H. A. Nickerson, of Quincy, giving some details of a legislative fight in the thirty-sixth district last fall.

Dr. Lovewell, of Chicago, moved to appoint a committee of three to nominate officers for the ensuing year. The Chair appointed Drs. Lovewell, Bowles and Jones.

The next speaker, Dr. T. H. D. Griffiths, of Springfield, was unable to be present on account of sickness in his family. However, he forwarded his paper, "The County Secretary," and it was read by the Secretary.

The last paper on the program, "What can the Secretary do to Get Out a Better Attendance?" was read by Dr. C. Hubart Lovewell, of Chicago, and was full of good helpful suggestions.

The nominating committee then brought in their report, which was unanimously adopted.

President, Dr. H. N. Rafferty, of Robinson; vice-president, Dr. Marion K. Bowles, of Joliet; secretary-treasurer, Dr. E. W. Fiegenbaum, of Edwardsville.

A few more such meetings will make this section of the State Society as interesting as are the others.

E. W. FIEGENBAUM, Secretary.

IMPORTANT FEATURES FOR COUNTY MEDICAL SOCIETIES

HENRY GLOVER LANGWORTHY, M.D.

DUBUQUE, IOWA

Mr. Chairman and County Society Officers of Illinois:

The Annual County Secretaries' Conference, while yet in its infancy, already shows signs of exerting a tremendous influence for that which is good in the not far distant future. While at first taking on somewhat of the nature of a pleasure meeting with rather ill-defined aims and little official recognition it is rapidly becoming the really one meeting of the year where thinking men with a state-wide outlook gather together to work out a system and organization which in time is going to direct and govern the welfare of the county medical societies in the United States. Everyone here to-day is here for an unselfish purpose and that purpose actual work towards the betterment of the medical profession. I am glad to be able to state that the men on the program and the men who are to discuss the papers do not come to Aurora with blare of trumpets and other advertising features directed solely toward personal interest, but come for the common good of all. The enthusiasm that one must gather from being on this floor this afternoon will, I am sure, be felt by every member before he leaves the building. Get something out of this meeting my fellowmen, so that when you return home you can feel in your hearts that the few hours spent at this conference have been really profitable ones. Physicians are expect-

ing more and more of their county societies and unless they receive substantial benefits from membership the repeated statement of men outside societies—"that they are about as well off outside as inside"—is going to have some weight. The time is already at hand when soft soap and a feast of purely professional improvement is not going to draw all doctors into the society fold. You must now begin to give them business reasons and very definite inducements or they will not come. It is easy enough to read a paper with such a title as "Important Features for County Medical Societies," but in order to live up to it we must cut out the more or less trivial things in the way of organization which any average secretary is perfectly able to work out at home, and get down to hard cold facts. I am perfectly candid when I say that I believe I am one of the most interested officers present at this meeting for the reason that I am on the lookout for information as well as here for the purpose of comparing an Illinois officers' conference with the many similar ones which I have attended in my own state. I am here to-day not so much to present new features which I have found of importance to me in my work as I am to meet the men who have seen service, learn something of their methods through discussion and to carry back home ideas which we in Iowa shall contrive to put into execution. If, therefore, when I have finished my address you do not get upon your feet and give me the ideas which I seek I am going to be disappointed.

But to get down to my subject and to take up the first important feature for a county medical society. There can be little question that every county medical society with a membership of forty-five or more would be greatly benefited by having some form of a regularly printed quarterly or monthly bulletin. I am not advocating at all that every secretary shall become a medical editor, but I believe that a society of any size ought to be able to find someone interested enough in its general welfare to spend the time necessary for adding an extra page of medical comments to the regular program which will keep members in touch with things about them. The several reasons for the advocacy of such a plan are as follows: 1. The work while naturally devolving on the society secretary is not at all burdensome. A four-page program and bulletin would be sufficient. 2. The expense will be little more than publishing the average society program. 3. Interest in society work is apt to be increased in direct ratio as members are kept in touch with their own community. 4. The bulletin plan is the most practical way I know of raising the medical standards of any county. 5. That the plan is successful is proven by the increasing number of programs and bulletins issued by county medical societies throughout the country.

It gives me great pleasure to say that some of the very best program and bulletin combinations that I have ever seen are published right here in this great State of Illinois. Indeed I can say without any suspicion of flattery that the county medical societies of Illinois lead America in general efficiency. But to get back to my theme, it is surprising how quickly the combination program and bulletin becomes the official organ of the society and as such is an index of the practice of medicine in the locality. To be more exact I will briefly describe the bulletin plan¹ as follows: The bulletin should be a small one, of not more than four pages, and of sufficient size to readily slip into an envelope and easily mailed. On the first page may be printed, "Program of the County Medical Society," followed by the name of city and place of meeting. The second page will naturally contain the full program of the meeting. The upper part of the third page includes the complete list of the officers of the society. The remaining half of this third and all of the remaining last or fourth page under a bulletin heading is to be used as the bulletin proper. The strictly bulletin part can be devoted to all sorts of miscellaneous medical news, short editorials and society announcements. That in a nut-shell is what every society secretary should try to give to his members. It is the first essential in holding the men of a county together both in organization and in good-fellowship. Say

1. Langworthy, H. G.: Publication of a Bulletin by the County Society, Jour. A. M. A., March 12, 1910.

what you will, every member looks over his society program, so do not, I beg you, miss the chance when he is doing this to drop something into his mind which will prove of interest and benefit. Go home with the motto: "More perseverance on my part, better programs, more medical news." You've got to keep everlastingly at the matter of programs, everlastingly at the men to get them on the programs and at the meetings if you want success! The profession looks to its county secretary for the real live wire, the real hustler, the man enthusiastic and young in spirit. Don't go away from this meeting to-day without getting the big idea which is, "Do something for the county medical society!" Arrange a program that you'll be proud of. Have the best men on the program and don't get discouraged just because the meetings are poorly attended as some meetings are bound to be! If the cause is a good one be a willing and good-natured though none the less martyred secretary. Just get busy all the time and the year as a whole is bound to show results.

This brings us to the second part of my paper, namely, the need of every county medical society keeping better track of the people who do not and will not pay honest doctor bills. There is a whole lot being written on the business side of the profession just now and I have contributed my share, but it does seem to me that it can be boiled down to these two things: First, make a proper and fair charge for services rendered. Second, use more business-like methods as well as co-operative methods in collecting what is rightfully our due. There is too much price-cutting going on for safety. The public has had too poor an opinion of the doctor as a business man. The profession hasn't had enough intelligence to get together, and treat the dead-beat as a strictly charitable individual and keep track of him so that he cannot take up your valuable earning time. Just because we hear the cry of unionism against a few county medical societies that have gotten together on an intelligent understanding as to fees and taken a stand to protect themselves, a few faint-hearted physicians have thought the term undignified. Will Americans ever forget the motto which gave us our birth-rights? "United we stand and divided we fall!" The business bureau for county societies, the principal features of which are herewith presented, is merely a recognition of the fact that we must send out bills more frequently, see to it that systematic quarterly collections are made by a competent society attorney when our own efforts fail, and finally learn the names of people who go from doctor to doctor without any intention of meeting their obligations. The plan which I present for your approval and which the essayist has succeeded in having adopted by a number of medical as well as dental societies is to simplify as much as possible the ordinary sound idea of business cooperation and apply it in a way that will fit county societies of smaller cities where it is often badly needed. I can do no better in presenting the plan than to read the official copy of the Business Bureau of the Dubuque County Medical Society, my own home city of 40,000. The establishment of the bureau should take the form of the ordinary resolution readily:

WHEREAS, it is deemed advisable that the County Medical Society should adopt a Business Bureau.² Therefore be it

Resolved, in meeting duly assembled this 16th day of May, 1911, that the same be and is hereby adopted and known as the Business Bureau of the County Medical Society, and that the said Bureau be conducted along the lines and according to the following:

OFFICIAL COPY OF A PRACTICAL BUSINESS BUREAU FOR COUNTY SOCIETIES

The following agreement between the Business Bureau Committee of the County Medical Society, party of the first part, and Attorney, party of the second part, shall be for a period of one year, said Bureau to be conducted along the lines and governed according to the following:

2. Langworthy, H. G.: Publication of a Bulletin by the County Society. Jour. A. M. A., Oct. 15, 1910.

1. That shall act as Attorney for the County Medical Society in the capacity of conducting the business of the "Business Bureau" of said society, and pursuant thereto said Attorney will call every three months upon physicians who are members of the County Medical Society for statements of accounts and will give receipts for same. That he will keep a separate and private file for each physician's accounts and correspondence. That he will keep a complete system upon which will be notated the exact status and progress of each account. That he will make quarterly returns direct to the physicians as the Business Bureau Committee may direct. That he will not bring suit on accounts without authorization and private arrangements with the physician. That he will assist the committee in auditing accounts. That each physician's account will be open to his inspection at any time, but to no other physician, and all other business matters will be kept absolutely private. That due diligence will be exercised in collecting all accounts turned over, and prompt settlement made after collection.

2. That the respective physicians will submit itemized statements of such accounts as they desire to place in the collector's hands. That physicians will receive remittance made directly to them from debtors. That on remittance made directly to the physician on account in the Attorney's hands, commission will be paid but no commission will be allowed on bills remaining unsettled or on money not collected.

3. That the Committee of the Business Bureau of County Medical Society may, at any time, audit the account in the hands of the Attorney and shall in cases of dispute distribute to the Attorney the amount of his commission and to the physician the amount due him on such accounts. That the commission to the attorney on accounts collected in payments or installments the schedule per cent. per payment will prevail:

Collections of \$2.00 or under.....	50 per cent. commission
Collections of \$3.00 or under.....	30 per cent. commission
Collections of \$4.00 or under.....	30 per cent. commission
Collections of \$5.00 to \$10.00.....	25 per cent. commission
Collections over \$10.00	20 per cent. commission

4. That all expenditures in conducting the collections by way of record files, all paper, envelopes, stamps, etc., shall be borne by the attorney.

5. That said attorney, shall be appointed by the committee for a term of one year subject, however, to removal by the Business Bureau or Society for unwarranted neglect, dishonesty or general incompetency.

6. That the attorney shall arrange a reference list as to financial standing and responsibility of patients, accessible to members of the County Medical Society but to none others. This list together with such additional lists and information deemed justly the private property of the Society shall be turned over to his successor in case of withdrawal, dismissal, or for any other reason. The attorney shall further furnish annually to each member of the Society in good standing, a reference list as indicated above, expense of printing and mailing said reference list to be borne by the Society.

7. These articles and the power given the Business Bureau Committee may be altered or curtailed by a two-thirds vote of members present and voting at any regular meeting, previous notice of such action having been given all members sixty days in advance.

Chairman
.....
.....

Attorney

The above I am sure you will find helpful if you will but try the plan. It is working out in other cities and towns, why not in your own? Gentlemen, we must recognize that the one thing needful in our profession to-day is better and saner methods for the collection of our bills! Give this to members and you

make the county society a benefit to them. Give them a general county fee-bill, not as a law but merely as a sort of general guide to follow and you will increase collections 12 per cent. Do this and the list containing the names of thousands of doctors who do not pay their bills as compiled by the large drug and supply houses will be materially reduced. Physicians are an extremely industrious class, but too much of their earnings are never collected. Think this over, get together and form a Business Bureau and then stick together on it. Don't be a price-cutter above all things, as the price-cutter is an acknowledged failure and the shame of the profession. In closing I would make this appear: Try to collect your old outstanding accounts and if you can't collect them, then, for heaven's sake, at least know the people who will not pay their bills!

DOCTORS IN POLITICS

L. H. A. NICKERSON, M.D.
QUINCY, ILL.

Any organized body entering the field of politics to defeat a candidate of one of the great political parties should have a grievance of sufficient magnitude to enlist the sympathy of the public: the local conditions should be of such a nature as to insure a reasonable degree of success. A failure to elect would mean a "set back" to the high ideals for which such a body stands.

In justification of the course of the physicians in entering the political canvass of the 36th Senatorial District at the last primary election, I will quote from the great American code, which says in part, "That all men are created equal; that they are endowed by their Creator with certain inalienable rights—among these are Life, Liberty and the Pursuit of Happiness." In the call of the colonies, August 2, 1776, for signatures to the Declaration of Independence, a doctor, Joseph Bartlett, was the first to affix his name. Four other physicians were among the signers.

In doing this they risked their lives and property for the good of their fellow men. Was this all? By no means. They have been always to the front, in the forum, in the legislature, in the army, and in many public offices, striving for the right and for the good of humanity, restoring to health the sick and wounded; advocating laws for the prevention of epidemics and in many ways elevating the standard of health. They have set an example that should not be forgotten and have been most potent factors in forming this great government.

By education and training, the physician is particularly fitted to make laws for the protection of the public from epidemics and endemics. I wish it understood that doctors should not necessarily enter actively into practical politics, but that he owes it to himself and the profession to enlighten the people on such subjects as endanger the health of the community, by instilling into the public mind the necessity for good laws pertaining to hygiene and right living. The public should be taught to cheerfully obey these laws.

We should get next to the legislators, pointing out to them vicious and bad laws, and see that those who get into politics and are sent as our law makers are upright, absolutely free from "isms" and "fads." There is no doubt that the medical profession, from political indifference and legislative ignorance, are often responsible for bad laws getting on our statute books. It should be the collective concern and duty of physicians to exercise an effective surveillance over the body politic and to expose any proposed vicious legislation.

Education and civic pride have done their work well in passing the Pure Food Laws; enabling the United States to build the Panama Canal with a minimum death loss, and in giving us free antitoxin in our own State, to say nothing of many laws now on our statute books. We must not be content with what we have accomplished in the past, but must strive to do more for the good of humanity. In a quiet way, let your influence be known to the political grafter.

During the last session of our State legislature, the physicians of the State received letters from Dr. L. C. Taylor, chairman of the legislative committee of the State Medical Society, asking them to write and interview their representa-

tives and senators with the view of defeating the Osteopathic and other vicious bills then pending before the legislature. The members of the legislature representing the 36th senatorial district led the physicians to believe they were opposed to these bills, and Dr. Taylor was so informed. To our chagrin and humiliation, Messrs. Groves and Bolin of the House voted for the Osteopathic Bill. At the July meeting of the Adams County Medical Society, a resolution was introduced and passed unanimously, directing the legislative committee of this component society to inquire into the feasibility of entering the political canvass with the object of leaving the Hon. Jacob Groves and C. E. Bolin at home, by defeating them at the primary election to be held Sept. 15, 1910.

This committee was given power to enlarge its membership and have full power if they decided to enter the canvass.

The committee as enlarged consisted of the following: D. M. Knapp, president Adams County Medical Society; C. A. Wells, secretary Adams County Medical Society; G. U. McComas, president Pike County Medical Society; H. T. Duffield, secretary Pike County Medical Society; Isaac Berry, president Calhoun County Medical Society; Stephen Flatt, secretary Calhoun County Medical Society; J. W. Weis, president Scott County Medical Society; H. H. Fletcher, vice-president Scott County Medical Society; J. P. Campbell, secretary Scott County Medical Society; James Miner, R. J. Christie, H. H. Hart, J. H. Rice, T. B. Knox, H. P. Beirne, C. W. Pfeiffer, Samuel B. Peacock, J. Estill Miller, Otis Johnston, W. W. Williams, L. H. A. Nickerson, R. J. Christie, chairman, and C. A. Wells, secretary.

At the first meeting of this enlarged committee an executive committee was named, consisting of H. P. Beirne, C. A. Wells, and L. H. A. Nickerson.

The skeleton of a circular letter was prepared by this executive committee and submitted to the full committee for amendment and endorsement. Our circular letters were always headed in bold type, "Joint Meeting of the Adams, Pike, Calhoun, and Scott County Legislative Committee." These letters were sealed and mailed to each physician in the 36th senatorial district.

The first letter was mailed on August 6, 1910, followed by five other letters: the aim being to have a new letter in each physician's hands every week or ten days. In addition to the letters we used two "Dodgers," one called "The Reminders,"

MY CHOICE

FOR REPRESENTATIVES IN THE GENERAL ASSEMBLY
36th Senatorial District

[x] WILLIAM H. HOFFMAN.

[x] CLEMENT L. HAWKINS.

TWO to be nominated.

numbers of which were mailed with each letter. We were very careful in writing these letters that they should contain nothing that could not bear publication if they should fall into unfriendly hands. Our letters were printed in bold, clear type, sealed, mailed, each backed with a two-cent stamp. In addition to the letters of the joint committee, our State secretary, Dr. E. W. Weis, Dr. L. C. Taylor, chairman of the State legislative committee, and Dr. Carl E. Black, member of the judicial council (Adams, Scott, Pike and Calhoun Counties being in his judicial district), wrote letters to every physician in these counties, urging him to support the committee's choice, for which generous service the joint committee was under obligations.

These letters were of great aid in this civic work. Hon. Jacob Groves of Adams County had just finished his fourth term in the House and was seeking a democratic renomination. He was very obnoxious to the physicians of Adams County, as he had "played double" with them as indicated by his answers to the physicians of the district. He was popular as the term goes, and a practical politician; he was endorsed by all the civic organizations in the State (except the doctors). Many thought he could not be defeated. In one of his announcements he stated, "I would have had the support of the State Medical Association

had I been willing to promise the physicians that I would support any measure that they might bring before the legislature; but this promise I flatly refused to make and as a result of this refusal, I have their opposition."

This "two-third column" announcement was published in the daily papers with his picture at the head of the column and was signed by Jacob Groves. He had the support of all the democratic papers of Adams County, with the endorsement of all the civic organizations of the state. We managed to keep out of the papers, only getting a "roast" from them the day before the election. We did our work by interviewing our friends and patients, asking them as a personal favor to vote for Messrs. Hoffman and Hawkins, at the same time placing in their hands a number of our "Reminders."

Hon. C. E. Bolin of Pike County had finished his second term in the legislature and was asking a renomination of the democratic voters. He had the support of most of the civic federations; was popular, and had a clean record. He voted for the Osteopathic Bill but states that it was done under a misapprehension. He thought the bill as amended in the House was acceptable to the profession and so voted for it. Two or three days before the election, the ILLINOIS MEDICAL JOURNAL was received by the physicians of the district, containing a notice that Mr. Bolin was satisfactory to the profession.

He evidently had signed the questions favorably asked by the State legislative committee. Mr. Bolin made it a point to have a personal interview with the physicians outside of Adams County, stating his position and with county pride he made another good point in this canvass, "That if Hoffman and Hawkins were nominated, all the legislative offices would be held by Adams County men." Just at this point, I wish to make clear our lamentable blunder. Up to a late date in the canvass, Groves and Bolin had only two opposing candidates for the nomination, viz.: Hoffman and Hawkins.

These two gentlemen were interviewed by the committee and were found favorable to the profession, hence there was no alternative but to endorse them and ask for the physicians' support. Later in the canvass, Hon. Sylvester Allen of Scott County came out as a candidate. If Mr. Allen had announced himself earlier in the field, there is no doubt but the committee would have endorsed him, and his nomination would have followed.

The blunder under the circumstances could hardly have been avoided. We were not practical politicians and as honorable physicians could not throw down our choice as made. We were and are satisfied with the result in the election of Messrs. Bolin and Hoffman.

We believe we have two good men to represent this district, and the profession will have no reason to complain of their services to the State. We are glad to say the Hon. Jacob Groves, who was so obnoxious to the Adams County physicians, was left at home. We feel we were justified in making this fight and that we have "made good." Hon. Campbell Hearn of the Senate and George H. Wilson of the House were with us in the last session of the legislature, so now we have a solid delegation in the 36th senatorial district, who will be favorable to any reasonable measure the profession may propose.

We will not hesitate in the future to engage actively in politics if the occasion requires. Did it ever occur to you the great power we have in our organization of 5,000 members? Certainly there is no physician who could not control at least ten votes of the dominant party in any political campaign. Few voters have any choice as to the member to be chosen for the legislature, hence, we only have to ask them, as a personal favor, to vote for or against anyone seeking a nomination. This would mean a total of 50,000 votes for the entire State; enough to defeat or elect any aspirant for any office. This power held before the vision of any office seeker would certainly be heeded. Our power is great, and needs only to be properly handled to meet our needs.

It is our duty to use this power with discretion and only for the good of the public. It should be remembered that the senatorial districts are not the same as our judicial districts. The writer has arrived at the following conclusions:

1. Every component society should have a legislative committee.

2. All component societies in each senatorial district should be formed into a compact unit by our State legislative committee.

3. Keep out of legislative fights, if possible, by interviews and pledges of the aspirants before the election.

4. If the necessity arrives to defeat an objectionable candidate the fight should have at least the sanction of the State legislative committee, if not made under its direction.

5. The State legislative committee should issue a Bulletin as early as possible after any important bill has been introduced into the House or Senate, advising the physicians as to its character, and whether it should be supported or defeated.

6. The place to defeat vicious bills is while they are in the committee.

7. That the legislative committee of the component societies be advised as to which committees the senator and representatives of their district have been assigned.

THE COUNTY SECRETARY

T. H. D. GRIFFITS, M.D.

SPRINGFIELD, ILL.

It is essential that each and every member of the county medical society put forth every effort possible to make the local society a live organization. The county secretary cannot in himself accomplish this, although it is frequently asserted that the *secretary is the society*. Just as a chain is as strong as its weakest link, so is the county medical society as strong as its integral parts. The sooner the county secretary can disillusion the minds of members of the society of any idea that the secretary is the star performer, the better it will be for both the secretary and the society.

In the arrangement of the year's program, every member of the society should not only be given a chance to take a part in the scientific work, but, I feel, it is the duty of the secretary to place them on the program, if not for a paper or an address, then to open a discussion, or to present a clinical case or a pathologic specimen. It will be a rare exception that any member will take offense at finding his name on the program even though he has not agreed to serve. This plan will increase the attendance, and tend to make every man a worker.

Again, the average society will have occasion during the year to appoint many committees. If your membership is so large that you cannot work all in on the scientific program, cooperate with the president in seeing that these are given committee appointments.

The successful secretary will constantly study the society, will learn what is to be done, and who is the most able man for the work, but it is not always best even to assign the ablest man, as you regard it, to a paper on a given subject. It is often more diplomatic and of equal value to have the "leading" men discuss the papers of those who may be more or less regarded as novices. (The importance of this plan is more impressed upon me now than ever before, since you have asked me to present a paper before the Secretaries' Conference). But recurring to the subject under consideration—every man must be made a worker, and it falls to the lot of the secretary to accomplish this, both as secretary or as a member of the program committee, of which, I believe, he should always be the chairman.

There are always to begin with a sufficient number of interested members of the society to not let a secretary fall down in his work, if he only manifests a working interest. The secretary must not shirk. To be sure, it is easier to proof read a postal card announcement, which is in a stock form, except the essay and essayist, which are changed for each meeting, than to issue an announcement or call that will be read, kept and possibly re-read before the meeting. It has been my policy to notify each member ten days or a week preceding the meeting by means of a letter sent by first-class postage. Nobody likes to get a printed postal card, or a second-class circular letter. The most common way, and usually the

best manner in the conservation of valuable time, is to throw them into the waste-basket. If you can get the use of a mimeograph machine, a hundred letters can be run off in a few minutes, or if the work does not appeal to you, the printer can turn out an imitation typewritten letter, which to all appearances, is genuine. This may seem trivial, but you will find fewer physicians who have "forgotten all about the meeting" by adopting a means of announcing the meeting which deserves more dignity and importance than can be carried on a postal card for a penny. If your society's finances cannot withstand the expense, get your dues increased. That's what I did. If you print your program, months or a year in advance, you still should issue your announcement before each meeting.

The writer has always found it worth while to augment the formal announcement by using the telephone on the day of the meeting to remind the members not to miss the meeting, and in this, the president should assist.

The County Society rests on a tripod—scientific contribution, paid-in dues and general business, and attendance. The ideal member is the one who meets all these obligations promptly and cheerfully.

The secretary's connection with the scientific work and attendance, I have touched upon slightly. As to finances: here the skill and tact of the secretary are tried. Physicians are not very different from other men, and your decorum must be in evidence in matters relating to collections. Write the delinquent a courteous little note, that you "feel sure you either did not receive the statements previously sent, or in the rush of a busy man, the matter was overlooked," etc., and "maybe, I possibly missed you." No one remonstrates at being regarded as a busy man, and if you also are willing to bear some of the blame, money will come better.

Primarily, the life of a society is dependent upon its own members, but as a stimulus "home talent" must sometimes be supplanted by a speaker of more than local reputation. The secretary is enabled to supply speakers of national reputation if only he puts forth the effort and the society expends, as it should, a proper sum for entertainment.

A society has three classes of members: first, those who attend regularly, pay their dues and are active in the affairs of the society; second, those who pay dues and do not attend; third, the unfortunates—those who stay at home, and do not pay dues—these have already been red-lined by the active secretary.

You ask me about a class that attends the meetings but does not pay? It's a nonentity; he just cannot attend where the *good* secretary is and not pay up—somehow he doesn't feel right.

In conclusion, were I asked to drink a toast to our society's success, I would hold up the sparkling wine and say, "Here's to the County Secretary, whose inhibitory fibers are paralyzed, and who, like unto the ever vaunted nostrum, 'works while you sleep!'"

WHAT CAN THE SECRETARY DO TO GET OUT A LARGER ATTENDANCE?

C. HUBART LOVEWELL, M.D.

CHICAGO

Tradition and general custom accounts for the popular notion that the success or failure of a medical meeting is due in a large measure to the secretary.

Most of us are human enough to enjoy the praise and approbation of our members whenever we have any unusually good meeting, but it is hard to feel that the failures are due to any of our own personal mistakes or derelictions.

How many times have we studied and schemed until at last we thought that we had a program that would interest every member of the society. Yes we *thought* so, but when the time came for the meeting we began to get nervous and wonder where they all were.

Doctors are queer fellows the world over. The more you study him the less you know. How many, if any, of you know beforehand exactly how he will react toward the inoculation of 1,000 ems (more or less) of 8 pt. brevier topped off with a generous dose of 12 and 18 pt. display type? I have given it up and I

have been at it some time too, but as long as I have any energy or gray matter left, I intend to keep hammering away.

It being granted then that we have to deal with a hard proposition and one that offers no great reward other than the satisfaction of good work, well done, let us reason together a while and get as much help from each other as we can in the short space of time that we have here to-day.

One of the first things that is to be learned by the secretary who wants to increase his attendance, is to be on the job more *himself*. We all waste many odds and ends of time. Nowadays manufacturers are getting rich on their by-products, the odds and ends they formerly threw away. The successful secretary must not only work diligently during the time just previous to the meeting, but he must make use of all his odds and ends of time to be thinking about the next meeting.

Another thing that is necessary is the regular consumption and assimilation of material in the way of suggestions and plans as used by other societies. We must give due attention to the kind of reading that we do if we wish to make the best use of the opportunities that the office of secretary brings. I am sure that it is with a feeling of deep humility that I make any attempt to tell you how to draw out your membership. Many a time have I gone home and told my wife that I was plumb disgusted clear through. The next morning, well I would think it over and try again and perhaps the next time our meeting would be all that a secretary could wish.

Some of the things that, in my opinion, have contributed to the success of the meetings of our society may possibly interest you, and if so I shall feel that I have not taken up your time in vain:

1. *Announcement*.—The regular appearance of an interesting and catchy announcement of the meetings. Use discretion in the selection of type and paper. You can make it look like regular boiler plate matter if you are careless. Add a few items of news, throw in a little exercise for the diaphragm. Doctors need to laugh once in awhile. Make it a general medium of publicity for medical matters in your county. It may be managed so as to be a source of great strength in influencing public sentiment and legislation. We print what we think our representatives ought to do and then send them a copy real often. And they know that we mean business too.

2. *The Program*.—Choose subjects of common interest offering timely and practical suggestions that all can appreciate. This will make it easier for all to take part in the discussions.

Some of our societies have taken up the post-graduate course as outlined by *The Journal A. M. A.*, and have found it very helpful and popular.

We may well cultivate the habit of having clinical meetings as I firmly believe that the general membership gets more real satisfaction out of a clinical meeting with plenty of good material than out of any other kind.

Then there are symposiums consisting of short papers by a number of men. These can be made very valuable and interesting to all, not only to those that listen, but in addition the spreading out after new men to read the short papers always tends to increase the interest and promises well for the next meeting.

In addition to these we might hold joint meetings with lawyers, clergymen and teachers on matters of public and personal hygiene. At such meeting considerable public sentiment may be created against some of the more common public evils, such as the public drinking cup, water supply, spitting in public places, etc.

I would suggest that during the coming year each of you try the plan of holding at least one meeting in conjunction with the State Board of Health. These could be made very interesting and profitable, I am sure.

Such an exhibit as was given by the Board last year at Danville would be very interesting to the average county society, and although I have not spoken to Dr. Webster or Dr. Egan about it, still I feel sure that they will be very glad to cooperate with any county society that wished to have such a meeting. Cooperate with Dr. Weis of our State Society in using the Bureau of Lecturers.

3. *The Place of Meeting.*—If the county seat is centrally located and transportation is good, this will be the best place for holding the meeting. If not, meetings held in different quarters of the county as in Jo Daviess County, will be very helpful in getting out a good attendance.

4. *Time of Meeting.*—Arrange the hour of the meeting so as to make it convenient for the largest number of your doctors. Possibly an afternoon hour followed by a dinner will help you out.

5. *Reception Committee.*—Now what shall we do with these men after we have coaxed them out? How shall we treat them so that they will want to come again? Man is essentially a social animal and the Doctor is no exception to the rule. Next to a good program is a good reception committee. There ought to be a separate special committee on greeting and entertainment for each meeting for the purpose of extending a hearty and pleasant welcome to every visitor, old or young, member or not.

I think that we are very often negligent in our treatment of the older men who sometimes come to our meetings. I think that we should make unusual endeavor to show a special courtesy to these men. Some have not attended a medical meeting for months and years and may feel rather out of place and embarrassed. Be sure that such an one is thoroughly introduced to the membership present and no matter what has been his history show him that you fellows are all wool and a yard square.

The interchange of these fraternal courtesies plays a very large part in the success of your work at the time as well as in the future gatherings.

Everybody admits the necessity and wisdom of getting all the young men affiliated with your society, but let us not forget the man who has fought the fight alone and unaided, during the days perhaps before there were any fever thermometers or hypodermic syringes, and who has worked out for himself many of the problems that we think are new. Give him a chance and he will tell you of many helpful things in the practice of medicine that you will not find in the books. I believe in a more warm and hearty spirit of fraternity with these older men *now* while they are still with us. Only a few years more and they will all be gone and we shall be in their places.

6. *The Physical Pleasures of the Meeting.*—Phillip Mills Jones of California once told me that the only way to get out the largest number of Doctors was to "Feed the Brutes." My experience will agree with this and so I say, give them grub if you want to send them home happy and glad to come again next year. Some light refreshment at least will do much toward stimulating the best side of a man and will often help to make good friends of neighbors who had been jealous of each other.

In general let us keep in mind the objects and aims of our great profession and of these societies which we are trying to build up and strengthen. Try to discourage, forever, if possible, the species of Doctor who is a *knocker*. Let us be reminded that a steeple and a smoke-stack are in some points quite similar and yet each has a very decided difference on the surrounding atmosphere. If we cannot lift up and *boost*, let us at least not fill the air with noxious vapors that blacken everything that they touch.

Remember there is only one kind of service that will satisfy the soul of a true secretary and that must come from the heart. There is no royal road in this matter any more than in any other endeavor. There is none Just as Good. You have got to get right yourself and then keep everlastingly at it if you want to see your society make good in the community.

"Perhaps I may gargle my throat with the water of failure, but something inside me tells me that if I keep faith with myself, keep my hands and mind clean, hold to my ideals, be frank and at least fairly honest and neighborly, I shall eventually win, even though I have to pass through hades and high tide before I arrive."—Thos. Drier.

NEWS OF THE STATE

NEWS

—Dr. G. D. Scott of Chicago has removed to Sullivan, Indiana.

—Dr. J. F. McBride of Coleta has removed to Davenport, Iowa.

—Dr. V. A. Carriere of Litchfield has removed to St. Louis, Mo.

—Dr. H. W. Jones of Arthur, Ill., has removed to Montrose, Mich.

—Dr. Daniel E. Egan of Streator has removed to 304, 108 La Salle Street, Chicago.

—Dr. Henry T. Godfrey of Galena, Ill., has removed to 5720 Cass Street, Omaha, Neb.

—Dr. W. O. Fish, a recent graduate of St. Louis University, has located at Alhambra.

—By the will of the late Sylvester Smith, \$2,500 is bequeathed to the Alumni Association of St. Luke's Hospital, Chicago.

—Dr. Louis Apple and family of Gillette, Wyoming, are visiting in Marine. They will probably locate there permanently.

—The Waukegan Physicians' Club was organized April 4, 1911, and has twenty active members residing in Waukegan and North Chicago.

—Dr. W. T. Dowdall has been appointed local surgeon of the Illinois Central Railroad Company at Peoria, in place of Dr. Bradley, resigned.

—The Columbus Extension Hospital at Polk and Lytle Streets, Chicago, was opened with impressive ceremonies July 16. The new hospital is a branch of the Columbus Hospital.

—Dr. Emil G. Beck will return in a few days from an extended trip to Europe. He demonstrated his treatment of sinusitis and empyema at the last congress of German surgeons held at Berlin.

—By the will of Mrs. Nannie Loewenthal, \$3,000 is bequeathed to Michael Reese Hospital and \$1,000 each to the Chicago Lying-In Hospital and Dispensary and the Alexian Brothers Hospital, Chicago.

—The Lake County Medical Society has commenced publication of the "Lake County Doctor." The first number appeared June, 1911. No doubt the monthly publication will be of great advantage to the society.

—Dr. H. I. Davis, who for the past six years has been superintendent of the detention hospital of Cook County, has returned to private practice, giving special attention to nervous and mental diseases; office 108 North State Street, Chicago.

—"Professor" L. Haskell of Murphysboro, a magnetic and faith healer, was found guilty of practicing medicine without a license, and fined \$100. He had been practicing in that city for eleven years, and in June, 1911, treated a baby which died, for diphtheria.

—Dr. and Mrs. F. E. Tulley of Granite City, will start some time during this month on an extended automobile tour of the far west, including Yellowstone Park. The machine will carry a complete camping outfit, also being arranged so that it can be used as a sleeping car at night. They expect to be gone several months.

—The following members of the staff of Julia F. Burnham Hospital, Champaign, have been reappointed: Drs. Cassius M. Craig, William E. Schowengerdt, William M. Gray, Clyde D. Gulick, J. F. Mason, W. M. Honn, Charles H. Spears, Jennie Lyons, Albert S. Wall, Cyrus F. Newcomb, Otis O. Stanley, and A. Darwin Kirby.

—Dr. Ralph T. Smith of DeKalb, Ill., sailed for Europe June 17, where he will spend a year in Vienna studying. During his absence his practice, which is limited to the eye, ear, nose and throat, will be in the hands of his brother, Dr. Clifford E. Smith, who recently completed a year's service at the Illinois State Eye and Ear Infirmary at Chicago.

—Governor Deneen is said to have accepted the resignation of Dr. J. L. Greene, Springfield, alienist on the State Board of Administration and to have appointed as his successor Dr. Frank P. Norbury, whose resignation from the position of superintendent of the Kankakee State Hospital occurred recently. It is announced that Dr. Greene has been offered the position of superintendent of the Arkansas State Hospital, Little Rock.

—The appropriations of the State Board of Health for sanitary purposes were increased by the general assembly just adjourned. The sum of \$46,000 was given for the purchase and free distribution of diphtheria antitoxin in the state. An appropriation was made for the care of poor persons bitten by rabid animals. Liberal appropriations were made for the enforcement of the medical practice act, to take the place of the fees turned in under the new law. Unfortunately it is specified that no part of the sum shall be expended for legal service.

—The recently enacted law in effect July 1, requiring the State Board of Health to turn into the state treasury all moneys received from fines and penalties, leaves the board without means to hire special attorneys to prosecute violators of the medical practice act in the several counties of the state. Suits must be brought hereafter through states attorneys, few of whom instituted prosecutions in the past, even when paid the fines collected. It is believed that none will do so in the future when the fines will be turned into the state treasury. The State Board of Health fears that under the conditions now existing the state will be overrun with unlicensed practitioners who will practice in defiance of the law.

PERSONAL

Dr. Henry Ward Clifton, Macomb, has moved to Lacon.

Dr. Ferris F. Tannus, Bloomington, has sailed for Europe.

Dr. and Mrs. Wesley John Woolston, Geneva, Ill., have sailed for Europe.

Dr. Maurice A. Bernstein, senior physician of the Oak Forest Infirmary, has resigned.

Dr. David E. Yantis has been appointed physician of the Illinois Traction System at Urbana.

Dr. James A. Flautt, who has been seriously ill at his home in Otterville, is reported to be convalescent.

Dr. John C. Foley, Waukegan, was knocked down by his automobile and suffered a fracture of the clavicle.

Dr. and Mrs. Lewis L. McArthur and Dr. and Mrs. Arthur Dean Bevan, Chicago, have sailed for Europe.

Dr. Clara Paulina Seippel has qualified as assistant city physician of Chicago and will assume her duties August 9.

In a collision with an electric car July 20, the automobile of Dr. Fremont C. Knight of Waukegan was demolished, but Dr. Knight received only slight injury.

MEDICAL SOCIETY NOTE

—Madison County Medical Society met at the residence of Dr. W. H. C. Smith, in Godfrey June 2, and considering the fact that it was held in the extreme northwestern portion of the county, this was the best attended meeting of the year, twenty-three doctors being present. Dr. Smith gave his annual address, choosing for his subject, "Epilepsy," which was listened to with a great deal of interest. Refreshments were served by the hostess, for which the members extended their heartiest thanks.

NEW INCORPORATIONS

—Lake View Hospital and Training School for Nurses, Chicago; capital stock increased from \$2,500 to \$5,000.

—Sisters of Mercy of Aurora, Ill.; establish sanitariums, hospitals, homes, day nurseries, etc. Incorporators, Catherine Bennett, Bridget R. McDermott, Teresa Walsh.

—The American University of Mental Science, Chicago; capital, \$2,500; to give instructions in psychic science, physiology, etc.; incorporators, A. W. Wicks, A. C. Metzger, A. G. Wicks.

—Prevento Manufacturing and Distributing Company, Chicago; capital \$100,000. Maintaining sanitarium, manufacturing and dealing in medicines and surgical appliances, and general advertising. Incorporators, Ernest S. Bell, Edward M. Eidherr, Albert G. Rosenbaum.

PUBLIC HEALTH

—Dr. George B. Young, Commissioner of Health, Chicago, requests that physicians report all cases of diarrheal diseases on the postal cards furnished by the department. This has an especial significance on account

of the outbreak of cholera among immigrants at New York City. While the department is confident that the national and local authorities are taking every precaution it behooves the local profession, especially those who practice among Italians, to take special precautions.

—The Supreme Court has sustained the medical practice act, for the first time definitely fixing the status of the State Board of Health in revoking licenses to practice medicine. The opinion was given in the case of David Apfelbaum, whose license was revoked because he had practiced under the name "Dr. Hoffman." The court said: "It is not contended that the state has not power to prescribe the qualifications of physicians practicing medicine and to punish unqualified persons engaging in such practice, and the existence of such power is not debatable. The revocation of the license is not intended as a punishment, but for the protection of the public under the police power of the state."

—Illinois cities that desire to obtain the new \$1,200,000 hospital for the insane, the establishment of which is authorized by an act taking effect July 1, were invited by the board of administration, June 20, to submit their briefs by Aug. 1. The notice, which was issued by L. Y. Sherman, president of the board, contains in part the following specifications which are to be observed in selecting the site: "1. The proposed location must well serve a locality in the state for the convenient care of 1,500 inmates. 2. There must be available not less than 1,000 acres nor more than 1,500 acres of tillable farm land, either in one body or in the immediate locality. 3. There must be available adequate water supply suitable for drinking and for all other purposes. 4. The proposed site must present topographical conditions suitable for the location of many buildings without excessive expense in the installation of a central heating plant and for the care of the sewage without unusual expense in excavation. 5. The site of the institution must be so located as to make access by railroad switch from either one or more railroads a matter of no considerable expense. 6. The rate per ton on coal from well recognized coal districts to the site would be of considerable importance in selecting a location. 7. Cities interested in the location of this hospital are requested to have prepared a brief, setting up in detail what the locality offers. Written options on the greater part, at least, of the site are necessary, yet it should be clearly understood in conferring with owners that the act confers on the board of administration the power of eminent domain. It is desirable that all communities interested in this matter have a brief setting up of their offerings in the hands of the board of administration not later than Aug. 1, 1911. It is proposed that the board will visit each city and site offered for this institution."

Are you making a drug fiend of your baby? You are in very great danger of doing so if you are giving it some of the so-called "soothing syrups."

Many of the best known soothing syrups are soothing only because they contain such dope as opium, morphin, heroin, codein, chloroform and chloral hydrate in some combination. The following, according to the Division of Chemistry of the Department of Agriculture, Washington, D. C., are soothing syrups of this class:

BEWARE OF THESE BABY KILLERS

Children's Comfort (morphin).

Dr. Fahey's Pepsin Anodyne Compound (morphin).

Dr. Fahrney's Teething Syrup (morphin and chloroform).

Dr. Fowler's Strawberry and Peppermint Mixture (morphin).

Dr. Groves' Anodyne for Infants (morphin).

Hooper's Anodyne, the Infant's Friend (morphin).

Jadway's Elixir for Infants (codein).

Dr. James' Soothing Syrup Cordial (heroin).

Kopp's Baby Friend (morphin).

Dr. Miller's Anodyne for Babies (morphin and chloral hydrate).

Dr. Moffatt's Teethina, Teething Powders (powdered opium).

Victor Infant Relief (chloroform and cannabis indica).

Mrs. Winslow's Soothing Syrup (morphin).

The drugs named in parentheses were found in the concoctions named.

Dope of this kind does great harm to babies. There are numerous cases on record where the baby has been put to sleep never to waken again. "In some instances in which soothing syrups are freely used and the child does not succumb there is developed a case of infant drug addiction. As soon as the effect of one dose passes away the child becomes irritable and fretful, with the result that another dose is given, the craving is met and the child is quieted—a condition which is analogous in every respect to drug addiction among adults. Sometimes these children look plump and healthy, but as a matter of fact their flesh is soft and flabby and they withstand attacks of illness very poorly."

These facts have been pretty well understood by the medical profession for some time, but it is our observation that there are thousands of Chicago mothers who still are ignorant of the harmful effects of this kind of dope. It is our duty to enlighten these mothers.—*From the Bulletin, Chicago Department of Health.*

—Mayor Harrison has selected Dr. George Bright Young, United States Public Health and Marine-Hospital Service, as health commissioner of Chicago, succeeding Dr. William A. Evans, who has made so distinguished a record in that office. The mayor's choice meets with general approval. Dr. Young was born in New Orleans, May 12, 1860. In 1870 his family moved to Charlottesville, Va., where he received his academic education at the University of Virginia. He took the first year

of his medical course at the University of Virginia and completed it at the University of Maryland, Baltimore, from which he graduated in 1887. Jan. 30, 1890, he entered the United States Marine-Hospital Service as Assistant Surgeon; in 1894 he was made Passed Assistant Surgeon, and, on Dec. 10, 1905, was promoted to Surgeon. Dr. Young has an enviable record of service. For three years he was in charge of the national quarantine at Delaware Breakwater. During the prevalence of cholera in Europe in 1893 Dr. Young was one of the officers sent by the service to take charge of the shipment of emigrants and cargoes from the various ports. He had charge of all traffic from Southern Italy and the Island of Sicily, with headquarters at Naples. This duty continued for about a year. One of its results was to demonstrate the sufficiency of the national quarantine regulations, for it so happened that while vessels were leaving for United States, other vessels of exactly the same character and carrying passengers and cargoes of identical origins were leaving for various ports in South America, and while not a case of cholera developed on any vessel from Naples after the regulations were put in force, every vessel not handled by Dr. Young had severe outbreaks of cholera and lost from 25 to 200 passengers. During the yellow fever outbreak in 1897 he had charge of interstate quarantine in portions of Tennessee, Mississippi, Alabama and Arkansas, at which time he established the first extensive system of train inspection. In 1898 he was detailed in the office of the surgeon-general for duty in connection with the supervision of the general quarantine operations of the service during the epidemic of that year. In 1905 he had charge of the operations of the service in a considerable portion of the South, including the supervision of the work done during the outbreaks in Natchez, Miss., Lake Providence, La., and Hamburg, Miss., and the interstate quarantine controlling train inspection and similar matters in a territory embracing nearly all of Mississippi, portions of Louisiana, Alabama, Tennessee and Kentucky. During the past six years Dr. Young has been stationed in Chicago where he has been active in sanitary work, in addition to his service as superintendent of the U. S. Marine Hospital. For several years he has been a member and is now president of the Lake Michigan Water Commission; he was a member of the City Milk Commission and is a member of the City Club's committee on insect pests. He has represented the United States Public Health and Marine-Hospital Service in the House of Delegates of the American Medical Association for the last four years, and in its Council on Medical Legislation and Council on Medical Education. The appointment of Dr. Young is an augury for efficient service, unhampered by political pledges or promises. —From *Journal A. M. A.*

—The campaign to save the babies during the hot summer months opened Monday, June 12, three weeks earlier than heretofore. If organization, forces, equipment and enthusiasm count for much, the work of the coming summer should be more effective than at any time in the

past. The Child Welfare Exhibit recently held in this city through the generosity of Mrs. Cyrus H. McCormick, Jr., has certainly done much to stimulate interest in this work. We now find a more general desire to assist in the work, a better appreciation of what must be done to save the babies and a realization that close cooperation of all interested agencies is essential to fully effective work. The chief agencies cooperating in the work this summer are the Health Department, the United Charities, Visiting Nurse Association, settlements, churches, sanatoria, hospitals, dispensaries, the Civic Federation of Chicago, women's clubs, the medical societies, the daily press, the local foreign newspapers and the county government. The central directing office will be maintained in the Department of Health, on the seventh floor of the new City Hall, with Dr. Caroline Hedger in charge; telephone Main 447, local 132. The work will be coordinated in this office, and, through prevention of duplication of labor, it is believed the scope and effectiveness of the work can be increased 50 per cent. From all sources the available trained field forces will consist of 150 nurses and fifty physicians. These will be supplemented with a large force of volunteer workers which will assist chiefly in distributing literature and otherwise instructing mothers in the care of their babies. Each of the workers will be supplied with a cooperation chart giving directions for the proper reference of cases requiring attention and showing the locations of the baby tents, the Infant Welfare Society stations, hospitals, sanatoria and dispensaries which will provide necessary care for babies. Day nurseries, district offices of the Bureau of Charities, offices of the Visiting Nurse Association will also be shown. Milk will be supplied free when necessary by the county and by the United Charities, and at cost by the Infant Welfare Society. Ice and iceboxes will be supplied free to the worthy poor by the county and the United Charities, and in addition the nurses will carry *Tribune* ice coupons, which will enable poor mothers to secure free ice from any of the Knickerbocker Ice Company's wagons. Baby tents—twelve of them, ten of which are to be furnished by the McCormick fund—will be established in centers of population congestion where the baby death-rate is high. Here mothers may bring their babies for free consultation and treatment, a nurse and physician being in attendance at each tent. Nurses will be supplied with the names and addresses of sick babies reporting at the tents, and they will give the necessary "follow-up care" in the homes. The educational side of the work is recognized as being of greatest importance; with better knowledge on the part of mothers there should be fewer sick babies. The chief aim of this whole work should be, and is, the keeping of well babies well. With this idea in view an elaborate educational campaign is being planned, details of which will be given in another issue of *The Bulletin*.—From *Bulletin Chicago Department of Health*.

CARE OF THE BABY

What is a well baby?

A baby which sleeps over twelve hours every day, without being rocked.

A baby which has a soft, yellow stool every day, without medicine or other help.

A baby which nurses every four hours and is satisfied.

Why a baby should be breast fed.—The breast is the natural food. Each mother's milk is made for her baby and is different for each stage of the baby's growth. A baby is not apt to catch certain diseases when fed at the breast. If properly breast fed, it stands a much better chance of escaping summer diarrhea.

Summer diarrhea kills many, but it injures many more than it kills, and that for a long time.

Proper breast feeding.—A healthy baby should nurse every four hours.

Let the baby sleep alone and nurse but once between 10 p. m. and 6 a. m.

Irregular nursing or nursing too often spoils the mother's milk and the baby's stomach.

No solid food should be given a nursing baby. Gruel, fruit juice and meat juice (not soup) are sometimes given after six months. Ask your doctor.

Don't give stuff to chew until there are teeth to chew with.

Wash the nipple before and after nursing with boiled water or boric acid solution.

If a baby nurses more than twenty minutes and does not gain weight, the breast milk may be scanty. Drink milk or corn-meal gruel to increase milk. Do not drink beer or alcohol in any form. Eat plain food and keep the mother's bowels well open.

Do not worry nor overwork if you can help it. It spoils the milk.

Drink for the baby.—Give only cool, boiled water, but give all the baby will take of that.

Give no beer, tea, coffee, soda or ginger ale to little tots; give no alcohol or patent medicine to any child.

Artificial feeding.—Most patent foods are wrong because they are not like mother's milk. Cow's milk is not like mother's milk, but can be made so. It must be clean milk if used for the baby, and it is better uncooked. If dirty, it must sometimes be cooked to make it usable. It must be kept cool and away from other food and flies. Ask your doctor how to make cow's milk like mother's milk.

Use no long-tubed nursing bottles. They are the lazy mother's baby killer. Use no "suckers"; they spoil the baby's mouth and carry disease.

In case of even slight diarrhea, stop all milk; give only water or well-cooked barley water (a tablespoonful of barley to one quart of water, cooked three hours) and call a doctor at once.

Give no paregoric. If anything is given, give castor oil—one teaspoonful.

Clothing.—A safe rule is to keep the baby's feet warm and its head cool.

It should neither drip with sweat nor have prickly heat. Bathe at least once a day, and in hot weather dress lightly.

In very hot weather use only a band and diaper, with stockings if the feet are cold.—Dr. Caroline Hedger in the *Bulletin Chicago Department of Health*.

REMOVALS

Dr. C. M. Wilmot, Fiatt, has removed to Speer, Ill.

Dr. C. H. Diehl, Montrose, Ill., has removed to St. Louis.

Dr. F. M. Sanders, Herrin, has removed to Richland, Okla.

Dr. I. A. Foster, Shawneetown, has removed to New Haven, Ill.

Dr. H. E. Small, Alpha, Ill., has removed to North Judson, Ind.

Dr. J. E. Porter, Shannon, Ill., has removed to Stevensville, Mont.

Dr. H. T. Godfrey, Galena, has removed to 5120 Cass Street, Omaha, Neb.

Dr. A. D. Steele, 520 Walton Street, St. Louis, has removed to Chester, Ill.

Dr. Elisabeth Burns of 701 Wellington Street, Chicago, has removed to Decatur, Ind.

Dr. J. S. Church, Geneva, Ill., has removed to 1419 Morse Avenue, Rogers Park, Ill.

Dr. A. M. Calvert, Ottawa, has removed to 523 East Monroe Street, South Bend, Ind.

Dr. Herbert Walker, Evanston, has taken an office at Room 1404, Heyworth Building, Chicago.

Dr. Joseph Hanson, 3215 Summit Street, Kansas City, Mo., has removed to 898 Scott Avenue, Milwaukee, Wis.

MARRIAGES

HELIDOR SCHILLER, M.D., to Miss Corinne Hart, both of Chicago, June 29.

JANET MALCOLM, M.D., to John F. Wohlgemuth, both of Chicago, June 10.

OMAR A. KELL, M.D., Salem, Ill., to Miss Cecil Maxey of Centralia, Ill., June 22.

CARL WILLIAMSON, M.D., Chicago, to Miss Marie Tate of Homer, Ill., June 16.

J. HENRY ALLEN, M.D., Chicago, to Miss Pearl McCain of Rockfield, Ind., June 14.

PIERRE J. TISCHART, M.D., to Miss Rose Marie Binette, both of Chicago, June 27.

JAMES ALLMOND DAY, M.D., to Miss Frances Edna Wilmot, both of Chicago, June 6.

JAY L. ARMSTRONG, M.D., to Miss Katherine A. Stevens, both of Chicago, May 14.

CHARLES E. COLE, M.D., of Jacksonville, Ill., to Miss Bess Dace of Rushville, July 14.

CURTIS THOMPSON, M.D., to Miss Pearl McCarthy, both of Carbon-dale, Ill., June 23.

EARL JOHN BYERS, Chicago, to Miss Ruth Birge of Grand Rapids, Michigan, May 24.

WILLARD THOMPSON, M.D., Chicago, to Miss Hazel Crofoot of Sandwich, Ill., June 14.

FRANK J. POKORNEY, M.D., to Miss Charlotte Henrietta Wolf, both of Chicago, June 13.

ROYAL LACY EDDINGTON, M.D., to Miss E. Murtell Mead, both of Fairfield, Ill., June 15.

ARTHUR E. HOAG, M.D., Carrollton, Ill., to Miss Bertha N. Moores-head of St. Louis, June 28.

SAMUEL WILCOX FORNEY, M.D., Chicago, to Miss Vera J. Aldrich of Petoskey, Michigan, March 22.

ARTHUR LEOPOLD FORSTER, M.D., Chicago, to Miss Helen Shannon of Grand Rapids, Mich., June 12.

ARTHUR JONES FLETCHER, M.D., Homer, Ill., to Miss Rose Vorhess Crawford of Danville, Ill., June 17.

EUGENE WAHL, JR., M.D., to Mrs. Marie Wayne, both of Edwardsville, Ill., at St. Louis, Mo., June 1.

DEATHS

JOHN A. FARREN, M.D., Baltimore Medical College, 1893; of Chicago, was found dead in Hot Springs, Ark., June 1.

JEFFERSON ODENBAUGH, M.D., Miami Medical College, Cincinnati, 1880; died at his home in LaGrange, Ill., June 9, of paralysis, aged 64.

CHRISTIAN J. HARTUNG, M.D., Rush Medical College, 1889; died at his home in Chicago, May 16, from hypertrophy of the liver, aged 54.

JOHN A. RUSSEL, M.D., Rush Medical College, 1877; died at his home in Chicago Lawn, Chicago, May 18, from cancer of the stomach, aged 60.

JOHN FARGO, M.D., Hahnemann Medical College, Chicago, 1882; formerly of Chicago and Minneapolis; died at his home in Hollywood, Cal., June 6, aged 79.

W. I. BEAMER, M.D., University College of Medicine, Richmond, Va., 1896; of Laura, Ill., died in Proctor Hospital, Peoria, Ill., July 6, from nervous disease, aged 38.

CLARENCE MCFALL, M.D., Louisville, Ky., Medical College, 1891; formerly of Peoria, Ill.; was killed June 6 by a cave-in while digging a trench on his ranch at Corona, Cal.

HENRY M. FOWLER, M.D. (license, Illinois); a practitioner for 45 years; for several years postmaster of Scales Mound, Ill., was found dead in his room in that place, June 2, aged 77.

MARY E. WHITE, M.D., Northwestern University Woman's School, Chicago, 1883; died at her home in Chicago, May 22, from arteriosclerosis, complicating chronic interstitial nephritis, aged 76.

IRVING W. JOHNSON, M.D., Homeopathic Medical College of Pennsylvania, 1856; one of the oldest practitioners of Illinois, died at his home in Peoria, June 12, of septicemia, due to a carbuncle, aged 79.

BENJAMIN PERRINE MARSH, M.D., Hahnemann Medical College, Chicago, 1875; a member of the U. S. Sanitary Commission during the Civil War; died at his home in Bloomington, Ill., May 30, aged 70.

BENJAMIN E. STULTZ, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1888; a member of the American Medical Association; died at his home in Moweaqua, Ill., May 24, from nephritis, aged 56.

MARGARET ANDERSON, M.D., Chaddock School of Medicine, Quincy, Ill., 1888; of Quincy, Ill., the oldest practicing woman physician in Adama County; died at Blessing Hospital, Quincy, June 16, from cancer of the stomach, aged 60.

JOSEPH H. ALESHIRE, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1877; for thirty-two years a practitioner of Plainville, Ill.; a member of the Adams County Medical Society, died at his home June 24, from heart disease, aged 62.

ALBERT STEAD GREEN, M.D., Northwestern University Medical School, Chicago, 1878; a member of the American Medical Association; consulting physician to the Rockford (Ill.) Hospital; died at his home in that city, June 1, from heart disease following an attack of influenza, aged 58.

JAMES CARMICHAEL HUTCHINSON, M.D., College of Physicians and Surgeons New York City, 1866; a member of the American Medical Association; formerly president of the Rensselaer County (N. Y.) Medical Society; for twenty-three years attending physician to the Troy Hospital; died at the home of his daughter in Rockford, Ill., June 11, from cerebral hemorrhage, aged 65.

Book Notice

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COMFORT ^{VS} LOOKS

IS YOUR BABY HAPPY IN HOT WEATHER?
If not—you're to blame.



THIS LITTLE TOT IS
COMFORTABLE AND HAPPY
WHEN THE SUMMER DAYS ARE HOT.
HE IS DRESSED RIGHT
TO STAND THE HEAT.

THIS UNHAPPY LITTLE CODGER
IS ALL FUSSED UP AND AS A
RESULT HE IS HOT
AND UNCOMFORTABLE.
HE IS DRESSED WRONG
FOR HOT DAYS.

DON'T DRESS YOUR BABY TO
MAKE A GOOD SHOW OF
HIM—DRESS HIM TO
KEEP HIM COMFORTABLE
AND HAPPY.



DEPARTMENT OF HEALTH—CHICAGO.

Katherine Field
White

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED AT THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER

VOL. XX SPRINGFIELD, ILL., SEPTEMBER, 1911

No. 3

ORIGINAL ARTICLES

THE LIBERAL DIET IN TYPHOID FEVER *

JOSEPH L. MILLER, M.D.
CHICAGO

The diet in typhoid fever is a problem of special interest. We are dealing here not merely with a prolonged fever, but also with a disease where certain portions of the intestinal tract have undergone extensive pathologic changes. On account of the extensive ulcerations in the ileum, the first essential in the diet must be that it shall not contain any material that might increase the danger of hemorrhage or perforation. With this in view the diet almost universally prescribed has consisted of liquids. As milk has been practically the only liquid possessing a material food value, these patients have been confined almost entirely to a milk diet. In addition, egg albumin in water has frequently been added to the dietary. We must remember in giving milk we are using a food which on reaching the stomach quickly assumes a semisolid form. Acted on by the milk-curdling ferment, rennin, it is rapidly coagulated. When the milk is drunk slowly, or diluted with lime water, these curds may be comparatively small. It is not infrequent, however, in typhoid-fever patients on a milk diet, especially if suffering from a diarrhea, so that the food is hurried through the intestinal tract so rapidly that it is not properly acted on by the digestive juices, to notice large and rather firm curds in the stool. It is not essential at this point to discuss whether such curds are composed chiefly of casein or fat, but it is sufficient to know that we have here masses derived from the milk capable of injuring an ulcerated surface. On the other hand, certain foods like well-cooked cereals, soft-boiled or poached eggs, custards, sugar, jellies, gelatin and strained cooked fruits are finely divided and cannot form hard masses on reaching the stomach. In fact, many other foods, more solid in character, if properly masticated or given in a finely divided form, are in a semiliquid

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

state when they reach the ileum. Milk then is not necessarily the safest food in typhoid fever, as in addition to the traumatic action of the curds, such masses are prone to undergo decomposition rather than digestion, thus giving rise to gases which may be important factors in increasing flatulency.

A serious objection to the exclusive milk diet is the natural or acquired aversion of which many patients complain. With marked impairment of the appetite, this frequently results in the patient taking very little nourishment. On account of the aversion during convalescence, when the average typhoid patient has a voracious appetite, he refuses often to take more than a limited amount of milk. We may advise that the patient receive a certain quantity at stated intervals, but unless this amount is small, the patient refuses to take it and insistence on the part of the attendant too frequently leads to disgust and still lessened consumption. Even if the patient is fond of milk, he will rarely drink a sufficient quantity to supply him with the requisite nourishment. Assuming that the average healthy individual requires from 2,200 to 2,500 calories daily, to obtain this amount of nourishment on an exclusive milk diet (as each quart contains 650 calories) he must drink four quarts of milk. This is evidently impossible, especially when we still further increase the amount of fluid by the addition of lime water. As we will see later, the typhoid patient requires, in order to prevent consumption of his own fat and muscle, about one and one-third the amount of food that would be demanded by the healthy person.

Recently the records of a number of patients in the Cook County Hospital who had been kept on an exclusive milk diet were examined, and it was found that the average daily consumption did not exceed 1 quart, or about 650 calories. This, it is true, is considerably below the average as in certain hospitals this average is $2\frac{1}{2}$ quarts. When we consider that a patient may be kept on this starvation diet for a period of five weeks, it is not surprising that they show an extreme degree of emaciation, and require weeks to regain their strength.

Not infrequently the loss in weight may reach 30 or 40 pounds. It is important to know that much of this loss in weight is due to destruction of the body muscle. The proteid destruction in typhoid is really enormous. F. Müller, by determining the nitrogen waste in a typhoid, estimated that in the course of eight days $5\frac{1}{2}$ pounds of body muscle tissue was consumed, and Leyden and Klemperer estimated that a patient had a destruction of 7 pounds of muscle tissue in twelve days. The replacement of such muscle is a very slow and gradual process and accounts for the long period of weakness following typhoid. It becomes then a very important problem to restrict this muscle waste to the minimum, and thus hasten convalescence. It is not improbable that such undernourishment may favor certain complications, as, for instance, impairment of the heart muscle. The question to be answered is, Can we prevent this extreme emaciation which we have accustomed ourselves to consider a necessary accompaniment of typhoid fever, and still not endanger life or increase the frequency of complications?

One of the first questions to be considered is whether a febrile patient's digestion and assimilation is seriously impaired. The work of Curitz and others has shown that assimilation in the typhoid patient is only 5 to 10 per cent. below that of the normal individual. It becomes possible, then, to perfectly nourish a typhoid patient provided he can be given the food. It has also been determined by Shaffer and Coleman that when a typhoid patient receives a sufficient amount of nourishment, the destruction of muscle tissue ceases. If properly fed, the ordinary emaciation and prolonged weakness can be avoided.

It is true that during the height of the fever a typhoid-fever patient may take very little food, but it has been interesting to notice that when given a sufficient variety of well-prepared foods the majority of typhoids will eat a moderate amount even at the height of the disease, provided, of course, they are not actually delirious. Much of the impaired appetite in typhoid fever is due to adherence to the milk diet. Almost invariably during the decline of the fever, the patient will take freely of the nourishment.

Liberal feeding of typhoid patients can scarcely be considered a recent innovation. Glancing back over the dietary treatment it may be noted that progressively the typhoid patient has received a more liberal diet. Until 1835 all fever patients were starved and restricted in the amount of fluids. When Graves at this time recommended giving water in which bread crumbs had been soaked, meat broths and jellies, the movement was considered revolutionary, and excited more comment than does the liberal diet of to-day. Graves and his followers were pleased with the results of feeding and gradually it became customary to feed in fevers. Later milk was added to the typhoid diet, this being a distinct advance, as on the diet recommended by Graves the patient received not more than 300 calories daily. When given two quarts of milk this was increased 1,300 calories. The value of an exclusive milk diet remained unchallenged until Peabody's paper in 1892. He questioned the desirability of the pure milk diet. Since this time there has been an increasing number of physicians, both in this country and in Europe, who have advocated liberal feeding. It is only necessary to mention Müller in Germany, Barr in England, Shattuck, Fitz, Kinnicutt and Le Fevre in America to see that the supporters of the liberal diet included the names of some of the illustrious men in medicine. Shattuck, in discussing Kinnicutt's paper in 1906, said: "For more than ten years I have been feeding my patients according to their digestive powers, rather than according to the name of the disease, avoiding such articles of diet as can leave an irritating residue." In all this earlier work, less attention was paid to the caloric value of the diet than to supplying the patient with a variety of safe foods. Bushuyere was first to pay especial attention to the food value of the typhoid diet, and to place his patients on approximately 2,000 calories daily. This was a big step in advance, and he was able to demonstrate that this quantity of food was well borne and the extreme emaciation was avoided. The recent work of Shaffer and Coleman, however, has been responsible for placing the dietary treatment of typhoids

on a real scientific basis by determining the amount and variety of food necessary to protect the body tissues. They determined that very much larger amounts of food were necessary than had been anticipated. This increased waste in typhoid is due to the combined action of the fever and bacterial toxins. In order to fully protect the body tissues, 60 or 70 calories per kilo were needed. A man of 150 pounds with typhoid requires, in order to maintain his weight, close to 5,000 calories daily or double the amount necessary to maintain a healthy person of the same weight. When a patient received this amount of food it was possible to carry him through his typhoid with very little loss in weight. In fact his weight when he became fever free was the same as before he was taken ill. It is true during the height of the fever there was some loss, but this was rapidly regained as the fever receded. Photographs taken of some of these patients in the beginning of convalescence are certainly in striking contrast to what we have been accustomed to observe with the milk diet. Our experience in the Cook County Hospital with the high caloric diet has impressed me with lack of pallor and emaciation in patients so treated as compared with those on an exclusive milk diet. It is true during the height of fever they may take only a moderate amount of nourishment, but the loss in weight was rapidly regained as the fever declined. It has also been shown that carbohydrates and fats are the best protectors of body proteids and about two-thirds of the food should be carbohydrates and not more than one-third fats. Only a moderate amount of proteids are essential, and this is included in the milk and eggs.

That Shaffer and Coleman were able to treat typhoid with little loss in weight is an extremely interesting observation, but it is questionable whether we should attempt to administer in every case the large amount of food necessary for this purpose. We should perhaps preferably attempt to give a sufficient amount of food to prevent excessive loss in weight. This can be accomplished in the average case by giving 3,000 calories daily.

In order to obtain a sufficient number of calories it is necessary to administer allowable foods with the high nutritional value. The most important of these are milk, cream, eggs and sugar. One quart of milk and a pint of good cream contain 1,600 calories. They may be given in the form of cream soups, with cereals as oatmeal, rice, cream of wheat, corn flakes, etc. The dry breakfast foods like corn flakes are especially desirable, as they take up a large amount of cream; or the patient may receive bread broken up finely in cream or cream toast. Creamed codfish picked up very fine often appeals to the patient's palate. The milk may be heated and arrowroot or cornstarch added. As much sugar (and milk sugar is preferable as it is not so sweet) should be added to all these foods as the patient will tolerate. A very palatable drink is equal parts of cream and vichy or seltzer. Cream and milk may be given in the form of chocolate or cocoa or with coffee. By using these various vehicles it is usually possible to administer a quart of milk and a pint of cream daily. Four or five eggs may be given daily. These may be taken raw

with a little wine, grape juice or orange juice, in the form of eggnogs, soft boiled, poached or as custard or ice cream. If the patient is given clear soup an egg may be stirred in. Each egg has a caloric value of 70, giving a total for five eggs of 350 calories.

It is often difficult to have the patient take 8 ounces of sugar daily, especially if he has an aversion to sweets. The carbohydrates, however, offer the best protection for body protein and must be given freely. The patient may be allowed cereals, bread, baked potatoes or any root vegetable in finely divided form, but the nutritional value of carbohydrates in this form is very low. It is impossible to give a sufficient number of calories unless we use sugar freely. Abundance of sugar may be added to cereals and cooked fruits. Simple desserts may serve as vehicles for sugar. Jellies and strained honey are rich in sugar. Sugar may be used freely in lemonade or the juice of grapefruit. Recently a young lady with typhoid craved candy and was given freely of the various forms of home-made candies, and as might be anticipated without any ill effects. By boiling for two minutes the water and sugar before adding the lemon juice, 4 ounces of milk sugar may be added to a glass of lemonade. The remaining 4 ounces may be easily taken in cereals, in jellies, cooked fruits or in the form of honey. Eight ounces of the sugar is equivalent to 1,000 calories. Occasionally sugar causes nausea, but the majority of patients will take an equivalent of 8 ounces of sugar daily by exercising ingenuity in the method of administering it.

The above diet gives us approximately 3,000 calories, milk and cream 1,600, eggs 350, sugar 1,000. The value of this diet is really in excess of 3,000 calories, as the cereals and other foods to be mentioned have considerable food value. It has been my practice to add 1½ ounces of fat crisp bacon daily. This has a high food value, 250 calories to the ounce, is relished by the patient, and when all the lean is removed and the bacon properly masticated, is harmless. As the bacon makes an excessive amount of fat if given in conjunction with the pint of cream, a less amount of cream may be given and the fat supplied in the form of bacon. One ounce of bacon is equivalent to 4 or 5 ounces of 20 per cent. cream.

With this amount of milk and eggs the patient receives sufficient proteid to supply his needs. Although meats in a finely divided form might be given they are liable to undergo putrefactive changes in the intestine with the formation of gas, and as carbohydrates are more essential for the protection of the body proteids, it is advisable to omit lean meats from the typhoid dietary.

In addition to the foods mentioned the patient may be given a great variety of soft foods as gelatin, tapioca, sago, wine jelly, soft puddings without raisins, baked or mashed potato, macaroni, caviar, etc. The majority of the prepared foods supposed to contain albumin are valueless, as are the various so-called meat juices and peptonoids. It is well to remember that the cheapest and most concentrated food is sugar. Alcohol is unnecessary, although there is no objection to its use in those accustomed to it.

The patient should receive his food at frequent intervals rather than in three meals daily. Feeding at two-hour intervals has been found the most satisfactory. From the above foods we can select a sufficient variety to tempt the appetite, provided the patient is not extremely ill. It is not necessary in this paper to outline the amount of food to be taken at each feeding. Knowing the amount necessary to be taken during the day, the physician or nurse can approximate it. In case of diarrhea it may be necessary to reduce the cream. However, diarrhea occurs so infrequently during the course of typhoid fever that there is little to be feared on this score.

Our discussion of this subject up to the present point has been largely theoretical. The final test must be the clinical results obtained from its application. Omitting as an element of no great importance the pleasure experienced by the patient on such a diet, what is the effect on the death-rate, hemorrhage, perforation and relapses? Conclusions cannot be drawn from a few cases, but we should endeavor to secure a series of cases, if possible extending over years, in order to mitigate the effect of varying severity of epidemics. The most valuable statistics are those from hospitals, where we can compare the results for years of a milk diet with a few years at least on the full diet. Fortunately such statistics are available. The statistics at Johns Hopkins Hospital for two years show a mortality on the liquid diet of 12.7 per cent., on a liberal diet of 6.1 per cent. Hemorrhage occurred on the liquid diet in 16.7 per cent., on the liberal diet in 13.3 per cent. Perforation on the liquid diet in 3.3 per cent., on the liberal diet in 3 per cent. Relapses 12.7 per cent. on the liquid diet and 18.3 per cent. on the liberal diet. The average duration of the fever on the two methods of dieting is the same. Kinnicutt in 1906 collected all available statistics and found the death-rate 10.5 per cent. on the liquid diet and 9.4 per cent. with the liberal diet. Perforation occurred in 2.4 per cent. on a liquid diet and in 1.3 per cent. with the liberal diet. Hemorrhage in 8.8 per cent. on a liquid diet and 4.7 per cent. with the liberal diet. Relapses 10.8 per cent. of cases on liquid diet and 11.3 per cent. of cases with liberal diet. Other statistics might be added, but all the results are so in accord that the above serves the purpose. On the liberal diet the mortality and serious complications, hemorrhage and perforations are more or less decidedly reduced. The only unfavorable result of the free diet is the somewhat greater frequency with which relapses occur. As the average duration of the fever is not increased, and the final results are better, we are forced to admit that the typhoid-fever patient on the properly selected liberal diet has a better chance of recovery than the patient on a liquid diet. When added to this is the much greater comfort of the patient we are compelled to believe that a liberal diet is not only permissible but advisable.

I must confess that when I first began using this diet it was with considerable hesitancy and not a little fear. Statistics, however, had already demonstrated its desirability. After having used it for three years in my service at the County Hospital I can unhesitatingly recommend it. Many of the interns and all of the nurses have become converts.

To see a typhoid-fever patient during his convalescence well nourished and relishing his food is a pleasant sight, when compared with the usual picture of a pale and emaciated patient taking his milk under protest and longing for the lapse of the ten-day afebrile period when he might be given, in his own language, "something to eat." As a matter of fact, he had been actually starved and the request for something to eat was only too true.

Shaffer, P. A., and Coleman, W.: Protein Metabolism in Typhoid Fever, *Arch. Int. Med.*, 1909, iv, 538.

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Fussell, M. H.: Diet and Care of the Bowels in Typhoid Fever, *Am. Jour. Med. Sc.*, 1909, cxxxviii, 526.

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THE CLINICAL DETERMINATION AND SIGNIFICANCE OF SOME OF THE PERIPHERAL SIGNS OF AORTIC INSUFFICIENCY *

FREDERICK TICE, M.D.

CHICAGO

All cardiovascular diseases tend to a disturbance of the circulatory equilibrium and are associated with arteriovenous manifestations. In aortic insufficiency the peripheral signs are most numerous and pronounced, much more so than in any other form of cardiovascular disease. The importance of some of the peripheral signs was fully appreciated and emphasized by Corrigan¹ in his original communication, the first accurate clinical description of the disease.

Although the signs are numerous and pronounced, the clinical recognition of aortic insufficiency is often overlooked, while not infrequently the diagnosis is made or suspected because of certain signs, when no insufficiency is present. These possibilities may arise, in part, from either an incomplete physical examination or the misinterpretation of the signs.

The basis of this report consists of a study of the post-mortem records of the Cook County Hospital and of a series of cases observed clinically in the same hospital.

The post-mortem records for a period of the last seven years, consisting of 1,703 sections, have been carefully examined. During this time there were ninety-three cases of clinically diagnosed aortic insufficiency, either as the essential or associated condition; and of this number the diagnosis was confirmed in 81, or 87 per cent.; not confirmed in 8 and doubtful in 4, because of the indefinite character of the records. During the same period the records show the anatomical findings of an aortic insufficiency in thirty-nine cases, in which the lesion had not been determined clinically. The greatest amount of care was exercised in the examination of these records, not only in reference to the actual valvular

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

1. *Edinburgh Med. and Surg. Jour.*, 1832, xxxvii, 225.

TABULATED CLINICAL PERIPHERAL FINDINGS IN AORTIC INSUFFICIENCY: + INDICATES PRESENCE AND — INDICATES ABSENCE

No.	Name.	Diagnosis.	Visible			Venous Pulse.	Hepatic Pulse.	Femoral Snap.	Delayed Arterial Pulse.	Double Femoral Murmur.	Femoral Tones.
			Collapsing Pulse.	Arterial Pulsation.	Capillary Pulse.						
1	J. L.....	Aortic insufficiency..... Mitral insufficiency..... Tricuspid insufficiency.....	+	+	+	—	—	+	+	+	+ Three tones
2	F. R.....	Acute nephritis..... Aortic insufficiency..... Mitral insufficiency..... Tricuspid insufficiency.....	+	+	+	—	+	+	+	+	Two tones.
3	M. H.....	Aortic insufficiency..... Aortic aneurysm..... Mitral insufficiency..... Tricuspid insufficiency.....	+	+	+	—	—	—	+	—	—
4	E. R.....	Aortic insufficiency..... Aortic aneurysm..... Chronic myocarditis.....	+	+	+	—	—	+	+	+	—
5	W. N.....	Double aortic..... Chronic myocarditis.....	+	+	+	—	—	—	+	—	—
6	J. C.....	Aortic insufficiency..... Mitral insufficiency..... Chronic myocarditis.....	+	+	+	—	—	—	+	+	—
7	P. T.....	Aortic insufficiency..... Mitral insufficiency..... Mitral stenosis.....	+	+	—	—	—	—	+	+	—
8	G. H.....	Aortic insufficiency..... Mitral insufficiency..... Tricuspid insufficiency.....	+	+	+	—	—	—	+	+	Three tones.
9	J. Z.....	Aortic insufficiency..... Mitral insufficiency.....	+	+	+	—	—	—	+	—	Two tones.
10	J. B.....	Nephritis..... Aortic insufficiency..... Mitral insufficiency.....	+	+	+	—	—	—	+	+	—
11	J. J.....	Aortic insufficiency..... Mitral insufficiency.....	+	—	+	—	—	—	—	—	—
12	G. P.....	Aortic stenosis..... Aortic insufficiency..... Mitral insufficiency..... Tricuspid insufficiency.....	+	+	+	—	+	—	+	+	Two tones.
13	W. W.....	Lobar pneu. L. L..... Empyema..... Aortic insufficiency.....	+	+	+	—	—	+	+	+	—
14	P. O.....	Aortic insufficiency..... Mitral stenosis..... Mitral insufficiency.....	+	+	+	—	—	+	+	+	—
15	P. L.....	Aortic stenosis..... Aortic insufficiency..... Mitral insufficiency.....	+	+	+	—	—	+	+	—	—
16	G. T.....	Aortic insufficiency..... Mitral insufficiency..... Tricuspid insufficiency..... Chronic nephritis.....	+	+	+	—	+	+	+	+	—

[illegible]

No.	Name.	Diagnosis.	Collapsing Arterial Pulse.	Visible Arterial Pulsation.	Capillary Pulse.	Venous Pulse.	Hepatic Pulse.	Femoral Snap.	Delayed Arterial Pulse.	Double Femoral Murmur.	Femoral Tones.
27	N. B.....	Mitral insufficiency.....	+	+	+	—	—	+	—	—	—
38	H. K.....	Aortic insufficiency.....	+	—	+	—	—	—	+	+	—
39	L. N.....	Aortic stenosis.....	+	+	+	—	—	+	—	+	—
40	B. T.....	Aortic insufficiency.....	+	—	+	—	—	—	+	—	—
41	J. K.....	Mitral insufficiency and stenosis.....	+	+	—	—	—	—	—	—	—
42	J. J.....	Aortic insufficiency.....	+	—	+	—	—	—	—	—	—
43	R. L.....	Mitral stenosis.....	+	+	+	—	—	—	+	+	—
44	F. M.....	Aortic insufficiency.....	+	+	+	—	—	—	+	+	—
45	J. C.....	Mitral insufficiency.....	+	+	+	—	+	+	—	+	—
46	M. M.....	Aortic stenosis.....	+	+	+	—	—	—	—	—	—
47	M. F.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—
48	F. H.....	Aortic insufficiency.....	+	+	+	—	—	—	—	—	—
49	D. G.....	Mitral stenosis.....	—	—	—	—	—	—	—	—	—
50	S. H.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—
51	A. B.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—
52	H. Z.....	Mitral insufficiency.....	+	+	+	+	+	+	—	+	Two tones.
53	P. Z.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—
54	F. E.....	Tricuspid insufficiency.....	+	+	+	—	—	—	—	—	—
55	N. M.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—
56	G. C.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—

[illegible]

No.	Name.	Diagnosis.	Collapsing Arterial Pulse.	Visible Pulsation.	Arterial Capillary Pulse.	Venous Pulse.	Hepatic Pulse.	Femoral Snap.	Delayed Arterial Pulse.	Double Femoral Murmur.	Femoral Tones.
78	F. M.....	Aortic insufficiency.....	+	—	+	—	—	—	—	—	—
79	F. M.....	Mitral insufficiency.....	+	+	+	—	—	—	+	+	—
80	N. O.....	Aortic insufficiency.....	+	+	+	+	+	+	+	+	Two tones.
81	C. M.....	Mitral insufficiency.....	+	+	+	—	—	—	—	+	—
82	J. B.....	Tricuspid insufficiency.....	+	+	+	+	—	—	—	+	Two tones.
83	J. M.....	Aortic insufficiency.....	+	+	+	—	—	—	—	+	—
84	G. C.....	Mitral insufficiency.....	+	—	+	—	—	—	—	+	—
85	L. H.....	Aortic insufficiency.....	+	+	+	—	—	—	+	+	—
86	F. W.....	Mitral insufficiency.....	+	+	+	—	—	—	+	+	—
87	H. G.....	Aortic insufficiency.....	+	+	+	—	—	—	—	+	—
88	B. P.....	Mitral insufficiency.....	+	+	+	—	—	—	—	+	—
89	J. C.....	Acute pericarditis.....	+	—	+	—	—	—	—	—	—
90	G. B.....	Aortic aneurysm.....	+	+	+	—	—	—	—	—	—
91	J. K.....	Aortic insufficiency.....	+	+	+	—	—	—	—	—	—
92	A. S.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—
93	H. M.....	Aortic insufficiency.....	+	+	+	—	—	—	—	—	—
94	J. R.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—
95	E. K.....	Aortic insufficiency.....	+	+	+	—	—	—	—	—	—
96	A. S.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—
97	J. B.....	Aortic insufficiency.....	+	+	+	—	—	—	—	—	—
98	A. T.....	Mitral insufficiency.....	+	+	+	—	—	—	—	—	—

[illegible]

No.	Name.	Diagnosis.	Collapsing Arterial Pulse.	Visible Pulsation.	Capillary Pulse.	Venous Pulse.	Hepatic Pulse.	Femoral Snap.	Delayed Arterial Pulse.	Double Femoral Murmur.	Femoral Tones.
118	B. T.....	Acute articular rheumatism.	+	+	+	—	—	—	+	+	+
		Acute tonsillitis.....	..	..	..	..	..	..	..	..	..
		Rec. acute endocarditis.....	..	..	..	..	..	..	..	..	..
		Aortic insufficiency.....	..	..	..	..	..	..	..	..	..
		Mitral insufficiency.....	..	..	..	..	..	..	..	..	..
		Acute pericarditis.....	..	..	..	..	..	..	..	..	..
		Pleurisy with effusion.....	..	..	..	..	..	..	..	..	..
119	V. S.....	Aortic insufficiency.....	—	—	—	—	—	—	—	—	—
120	J. C.....	Mitral insufficiency.....	+	+	+	..	..	+	+	+	..
121	R. N.....	Mitral insufficiency.....	+	+	+	..	..	+	+	+	..
122	D. B.....	Aortic insufficiency.....	+	+	+	..	..	—	+	+	..
		Mitral insufficiency.....	+	+	+	..	..	..	..	..	..
123	J. P.....	Aneurysm .....	+	+	+	..	..	..	..	..	..
		Aortic insufficiency.....	+	+	+	..	..	..	..	..	..
124	F. R.....	Mitral insufficiency.....	+	+	+	..	..	..	..	..	..
		Aortic insufficiency.....	+	+	+	..	..	..	..	..	..
		Mitral insufficiency.....	..	..	..	..	..	..	..	..	..

SUMMARY

No. of Cases.	Collapsing Pulse.	Visible Arterial Pulsation.	Capillary Pulse.	Venous Pulse.	Hepatic Pulse.	Femoral Snap.	Delayed Arterial Pulse.	Double Femoral Murmur.	Femoral Tones.
Total	+118, 95%	+95, 76%	+112, 90%	+8, 7%	+15, 14%	+43, 45%	+50, 48%	+100, 88%	+26, 24%
124	—5, 5%	—29, 24%	—12, 10%	—116, 93%	—109, 86%	—81, 65%	—74, 52%	—24, 12%	—98, 76%

condition, the hydrostatic test, which was determined in most instances, but also as to the presence of cardiac changes, as dilatation and hypertrophy. While admitting the possibility of discrepancy on account of imperfect records, either clinical or post mortem, the possibility of a slight or relative insufficiency from dilatation of the ring without anatomic changes, the findings are as accurate as a careful examination will allow.

The clinical portion of the report consists of the peripheral findings, as indicated, in a series of cases clinically diagnosed aortic insufficiency, such a diagnosis being made on the cardiac and cardiovascular findings, usually after more than one, sometimes several examinations.

The peripheral signs will be considered in the order given in the tabulated findings.

1. *The Collapsing Pulse*.—In the description of the disease which bears his name, Corrigan directs attention to the character of the pulse which, according to him, constitutes one of the three vascular signs. Since his description the pulse has been variously designated as Corrigan's pulse, water-hammer pulse, collapsing pulse, *pulsus altus et celer*, and the pulse of aortic insufficiency.

The general characteristics of this pulse are too well known to require any detailed description.

According to Corrigan,¹ "the pathologic essence of the disease consists in insufficiency of the valvular apparatus at the mouth of the aorta, in consequence of which the blood sent into the aorta regurgitates into the ventricle.

"Hence, the ascending aorta and arteries arising from it, pouring back a portion of their contained blood, became, after each contraction of the ventricle, flaccid or lessened in their diameter. While they are in this state the ventricle again contracts and impels quickly into these vessels a quantity of blood which suddenly and greatly dilates them."

Broadbent² describes the pulse as follows: "The artery at the wrist is large. In the interval between the pulsations it is empty and allows itself to be completely flattened against the bone; then the wave comes with a sudden violent rush, filling the vessel and lifting the fingers forcibly. It is as short as it is sudden, and the artery at once collapses again under the pressure of the fingers. The cause of the collapse is that in consequence of the loss of support of the aortic valves the column of blood is not sustained, and therefore drops out of any vessel which is above the level of the heart in obedience to gravity."

To determine the collapsing character it is therefore necessary to take the precaution to have the examined vessel above the level of the base of the heart. With the patient in bed or in a sitting position, this is usually done unconsciously; but if the patient is standing, or the pulse is examined in a dependent position, the precaution is necessary. This was, apparently, fully appreciated by Corrigan, for to obtain the collapsing character in the lower extremities, the limbs were elevated, while the head of the patient was depressed.

2. Heart Disease, 1906, p. 127.

The diagnostic importance of the pulse is expressed by Broadbent,² for he says: "The collapsing character of the pulse is indispensable as an evidence of aortic regurgitation, though certain complications may interfere with the degree of collapse.

"The degree of collapse in the pulse is an important factor in the estimation of the amount of the regurgitation. The greater the regurgitation, the more pronounced will be the collapsing character of the pulse. In the absence of any marked collapse in the pulse, a diastolic murmur, whatever its character, would not indicate any serious degree of incompetence."

The absence of the collapsing pulse, in the presence of cardiac signs of aortic insufficiency, has been accounted for by the faulty technic in examining the pulse and making sphygmographic tracings or because of some complication. Of the conditions which may interfere with the collapse, there may be mentioned:

First. An associated aortic stenosis of such a degree and character as to allow a regurgitation but without producing a collapse.

Second. When the insufficiency is of the arteriosclerotic type, usually occurring in the aged. The amount of insufficiency is generally slight and the vessels are stiff and rigid, which interferes with their sudden distention and collapse.

Third. In the stage of decompensation there may be such a marked reduction of ventricular force as to fail to produce the collapse.

While these factors may interfere with or prevent the occurrence of the collapsing pulse, in not a few instances of uncomplicated aortic insufficiency, the collapse is absent. To determine definitely the character of a pulse, a sphygmographic tracing is indispensable. According to Mackenzie and Broadbent, the greater part of the collapse in a normal pulse occurs after the dicrotic notch, while in aortic insufficiency before the notch. If the dicrotic notch is above the midline between the apex and base of the pulse wave, the pulse is not collapsing, but if the notch is below the midline, the pulse is collapsing.

Since Corrigan's description the collapse has been accepted as diastolic in the cardiac cycle and due to the lack of support of the aortic valves, although Clifford Allbutt directs attention to the dilated and elongated arteries as a factor, and Gibson considers the comparative emptiness of the arteries as essential.

More recently Stewart³ has investigated experimentally and clinically the cause of the collapse and many of his findings are quite revolutionary. He has confirmed the findings of Henderson in reference to the pressure in the carotid artery and ventricle by means of simultaneous tracings, which demonstrates that the fall of pressure in the artery is systolic and not diastolic. Furthermore, he has determined that the amount of systolic output is usually increased only about 0.5 c.c., and even in extensive injury to the valves the amount did not exceed 1 c.c. of blood.

This finding is absolutely opposed to the usual conception of the amount of regurgitated blood, but it must be remembered that the flow

3. Arch. Int. Med., 1, No. 1, 102.

of blood from the auricle is extremely rapid, and the ventricle is filled, raising the intraventricular pressure to such a point as to interfere with the comparatively small flow from the aorta. Another factor of importance in maintaining a nearly normal systolic output is the muscular tonus of the ventricle, which determines, in great part, the degree of distention and the amount of residual blood. As the intravascular pressure rapidly increases, while the aortic diastolic decreases, the two soon become equal or nearly so, and as a result there is little or no flow in the latter part of diastole from the aorta into the ventricle. Accepting, then, these findings, the systolic fall in the arterial pressure and the comparatively small amount of regurgitated blood, it becomes evident that the collapsing character of the pulse is not to be explained on the incompetency of the aortic valves, but must be produced by some other means. It has been determined, experimentally and clinically, that the rapidity of the capillary escape, which is controlled by the vasomotor mechanism, is responsible for the collapsing character. In aortic insufficiency there is produced not only a mechanical dilatation of the arteries but also a vasomotor dilatation of the arterioles and capillaries. This change is due in great part to a reflex inhibition of the vasomotor center, resulting from the stimulation produced by the increased intravascular pressure. If, for any reason, cardiac or vascular, no vasomotor dilatation occurs, an aortic insufficiency may exist without a collapsing pulse. The converse is equally true, namely, that a vasomotor dilatation unassociated with an aortic insufficiency may produce a collapsing pulse.

In unsuccessful attempts by Stewart, as determined later by post mortem, to produce experimental insufficiency, the pulse tracings for a period of about one hour were typically collapsing in character and later became perfectly normal. The valvulotome in these experiments failed to divide one of the cusps, but entered the ventricle, producing irritation of the reflex nerve, resulting in a vasomotor dilatation.

Conclusions as to clinical significance:

First. The typical collapsing pulse *per se* is not pathognomonic of aortic insufficiency.

Second. That the collapsing character is not due directly to the amount of regurgitated blood, but is the result of a vasomotor dilatation.

Third. Aortic insufficiency may exist without a collapsing pulse.

Fourth. A typical collapsing pulse may occur with perfectly normal and competent aortic valves, as is not infrequently observed in exophthalmic goiter and other diseases with vasomotor dilatation.

Fifth. The degree of the collapse of the pulse in an aortic insufficiency is no indication of the amount of regurgitated blood or the extent of the valvular defect.

2. *Violent Arterial Pulsation*.—This condition was first observed by Vieussens⁴ and later by Corrigan.¹ It constituted one of the three vascular signs described by Corrigan as follows:

“When a patient affected by the disease is stripped, the arterial trunks of the head, neck and superior extremities immediately catch the eye by

4. Quoted from Huchard: *Mal. du cœur*, 3d ed., Paris, 1905, 111.

their singular pulsation. At each diastole the subclavian, carotid, temporal, brachial and in some cases even the palmar arteries, are suddenly thrown from their bed, bounding up under the skin. From its singular and striking appearance, the name of visible pulsation is given to the beating of the arteries."

Frequently the condition is so pronounced that the diagnosis of aortic insufficiency is made involuntarily. The quick pulsations in the carotids are often referred to as the hopping carotids and when present in the general vessels, as the *danse des artères*. When the pulsations become particularly violent, there is not only a marked arterial pulsation, but the entire body of the patient and even his bed are shaken with each systole.

F. Müller⁵ has described a visible pulsation of the uvula and Becker⁶ a similar condition of the retinal arteries.

With the occurrence of an aortic insufficiency, the arteries become elongated, tortuous and dilated, so that the pulsations produce a distinct vermicular character, designated as the locomotive pulse.

The violent arterial pulsations result from the same conditions producing the collapsing pulse, the vasomotor dilatation playing an important rôle.

Conclusions as to clinical significance:

First. Violent arterial pulsations, while very suggestive, are not pathognomonic of aortic insufficiency.

Second. The chief factor in their production consists of the arterial and capillary changes; the aortic valves may be normal and competent.

Third. Violent arterial pulsations are observed clinically in pseudo-aortic insufficiency of Lennhoff, v. Weissmayer⁷ and Huber,⁸ in exophthalmic goiter and other diseases associated with a high pulse pressure.

3. *The Capillary Pulse*.—The visible pulsation of the capillaries in aortic insufficiency was described by Quincke,⁹ and is usually referred to as the Quincke pulse. Its presence may be determined by the following methods:

First. Perhaps the most convenient one is to make a slight amount of pressure over the free end of one of the finger-nails, producing an anemic area beneath the nail, the border of which, or the entire area, will become alternately anemic and hyperemic with each cardiac pulsation.

Second. By producing an area or line of hyperemia, over the skin of the forehead, by slight friction by means of a finger-nail, the bell of the stethoscope, or any other blunt object. This hyperemic area is seen to flush and pale, often best observed at a slight distance.

Third. Pressure on the mucous membrane of the everted lower lip, by means of a microscope slide, watch crystal or any transparent object will produce the same phenomenon.

When the capillary pulsation is pronounced, and in good light, it is possible to detect its presence on mere inspection of the face or hands, which is particularly true if moist from perspiration. One of the cases

5. Charité-Ann., Berl., 1889, p. 251.

6. Monatsschr. f. Augenheilk., 1870.

7. Ztschr. f. klin. Med., Berl., 197, xxxii, 29.

8. Berl. klin. Wehnschr., 1898.

9. Berl. klin. Wehnschr., 1868.

in the clinical group presented so pronounced a capillary pulse that it could be distinctly seen across the ward. Quincke has described a capillary pulse occurring in the retinal arteries.

Under normal conditions the flow in the capillaries is smooth and continuous, without any pulsation. This constant, uninterrupted flow depends on the following factors:

First. The vasomotor resistance.

Second. Regular, forcible contraction of the heart.

Third. Elasticity of the arterial walls.

Fourth. The volume of the circulatory blood.

A marked variation from the normal of any one of these factors is capable of producing a capillary pulse that is visible and palpable. Experimental and clinical determinations indicate that the capillary pulse occurs most frequently as a result of disturbances of the vasomotor resistance and loss of elasticity of the arteries, although in certain instances all four factors may be present. The phenomenon may be produced or checked by administering vasomotor dilators or constrictors, regardless of the presence or absence of an aortic insufficiency.

Conclusions as to clinical significance:

First. The capillary pulse is not pathognomonic of aortic insufficiency.

Second. Its presence depends on a disturbance of the capillary flow, in most instances a vasomotor dilatation and loss of the arterial elasticity.

Third. The capillary pulse is a frequent finding in all diseases associated with a toxemia, as pneumonia, sepsis and typhoid; in nervous disturbances, as hysteria and neurasthenia; in arterial diseases, as arteriosclerosis, or it may occur in exophthalmic goiter. It is not a rare finding in apparently perfectly healthy individuals, particularly after the use of coffee, tea, tobacco or alcoholics.

4. *Venous Pulse*.—A centripetal venous pulse is occasionally observed in aortic insufficiency, differing entirely from the quick arterial pulsation or the momentary flush of the capillary pulse. It is best observed on the dorsum of the hand, held in a dependent position; the pulsation is slow and deliberate, advancing centrally from the periphery. This venous pulse becomes possible whenever the arterioles and capillaries are dilated, permitting a direct transmission of the arterial pulse wave to the veins. While occasionally associated with an aortic insufficiency, it may also occur in other diseases, when the capillary resistance is reduced and the pulse-pressure increased. A most pronounced centripetal venous pulse has frequently been found in exophthalmic goiter.

5. *Hepatic Pulse*.—A true liver pulsation may occur either from the sudden arterial filling, the transmitted arterial pulse to the liver, or it may present the more frequent positive venous pulsation due to a tricuspid insufficiency. A differential determination is not always easy, but may be made when the liver pulsation is unaccompanied by a positive jugular pulse and the cardiac signs of a tricuspid leak.

6. *Femoral Snap*.—On auscultating over the femoral artery a distinct accentuation of the femoral sound is heard. Quite frequently it is most intense and is then known as the pistol shot. It is probably produced by

the vibrations resulting from the sudden and violent distention of the vessel by the onward rushing arterial wave. As a rule, the more pronounced the collapsing pulse, the visible arterial pulsations and the capillary pulse, the greater the degree of the femoral snap. While designated as the femoral snap, the same phenomenon may be obtained by auscultating over an artery in other locations; it may be heard in the palm of the hand or even in a finger-tip by using the stethoscope with the bell removed.

7. *Delayed Arterial Pulse*.—The evidence on the cardio-carotid or cardio-radial interval is quite conflicting.

Henderson¹⁰ was of the opinion that the interval between the heart's impulse and the arterial pulse was prolonged in aortic insufficiency.

Austin Flint¹¹ was of the same opinion, for he says: "That it characterizes certain cases in which the regurgitation is excessive is not to be denied."

The careful clinical observations of Walshe¹² led him to the conclusion that "The retardation may with care be detected in many, but unquestionably not in all, cases of that disease."

Sir William Broadbent vigorously maintained and supported the occurrence of a delay. To quote him: "The pulse in aortic regurgitation is always retarded or delayed; that is, there is an appreciable interval between the beat of the heart or the carotid pulse and the pulsations in the radial artery which varies according to the extent of the incompetency."

A number of equally competent authorities are diametrically opposed to the foregoing observations.

Clifford Allbutt¹³ in discussing the point says: ". . . for the closer my attention the less could I detect of the alleged peripheral pulse delay."

As most of the preceding statements are based on mere unaided clinical observations, the conclusions as determined by means of the sphygmograph are indispensable.

Mackenzie says:¹³ "I have taken an enormous number of tracings of radial, carotid and apex beats in aortic regurgitation and have never in any single case detected radial delay." These findings are confirmed by François-Franck, d'Espine, Chapman and others. Even Broadbent admits he was unable to detect any delay in the carotid-radial pulse.

With all due regard it must be admitted that a delay is the logical conclusion and the discrepancy may be found in the variability of the pathologic varieties of aortic insufficiency, the associated arterial changes and the presence of complications. If a mitral insufficiency or a myocarditis coexists, it is apparent that a prompt and efficient emptying of the ventricle may not occur and interfere with the production of the wave.

8. *The Double Femoral Murmur*.—A double murmur over the course of the aorta was described by Corrigan as one of the three vascular signs of aortic insufficiency, which must not be confused with the double

10. Quoted from Chapman: *Lancet*, 1898, ii, 20.

11. *Diseases of the Heart*, 2d ed., 1870, Phila., 158.

12. *Diseases of the Heart*, 1862.

13. *System of Med.*, 1909 vol. vi, p. 460.

femoral murmur, for the two are separate and distinct. The latter is an artificially produced sign, while the former results from a double aortic lesion or an aortic insufficiency with changes in the aortic wall or its intima. The presence of a double murmur in the femoral artery was first noticed by Bouillaud, but described by his pupil, Duroziez,¹⁴ and is usually designated as Duroziez's sign or murmur.

It is elicited by compressing the femoral artery against the underlying bone by gradually increasing pressure with the stethoscope. It is best to first accurately locate the position of the vessel by palpation and then make slight pressure with the stethoscope, when a systolic murmur will be heard, which is a perfectly normal finding. As the pressure is gradually increased, the diastolic murmur is produced, the presence of which, with the systolic murmur, constitutes Duroziez's sign. If at any time the pressure is of such a degree as to obliterate the systolic murmur, without producing the diastolic, the amount of pressure will be excessive and the vessel must be released and the procedure repeated.

Potain directs that pressure be made on the artery by the edge of the stethoscope which is farther from the heart, in order that the diastolic fluid veins or eddies, thus produced, may pass under the bell of the instrument. While designated as the double femoral murmur or Duroziez's sign, the same phenomenon may be obtained by pressure over any of the larger arteries, as the subclavian, axillary, brachial, popliteal and even the radial. As to the mode of its production, as already stated, it is an artificially produced sign, resulting from the narrowing of the arterial channel by pressure, so that fluid veins or eddies occur as the blood passes and repasses the point of constriction.

The systolic portion of the murmur is easily explained on a perfectly normal basis; the diastolic portion, however, involves the same factors considered in the production of the collapsing pulse. A backward flow of blood is absolutely essential for the production of the diastolic murmur, but the amount of blood that regurgitates from the aorta into the ventricle, is not the chief factor, for the phenomenon can be present in other conditions unassociated with aortic insufficiency. Here, again, a disturbance of the peripheral resistance with an increase in the pulse-pressure is the determining factor.

Although Balfour¹⁵ goes so far as to say: " . . . , for I have no hesitation in saying that a true ventricular diastolic murmur is never heard in the arteries unless aortic incompetence exists," Duroziez says it is also heard in cases of enteric fever, chlorosis and lead poisoning. It may also be heard in exophthalmic goiter, arteriosclerosis, in pseudo-aortic insufficiency and other diseases associated with a backward flow of blood. On the other hand, many cases of aortic insufficiency are not associated with this phenomenon.

Conclusions as to clinical significance:

First. The double femoral murmur *per se* is not pathognomonic of aortic insufficiency.

14. Arch. Gen. de Med., April, 1861.

15. Clin. Lec. on Dis. of the Heart and Aorta, 3d ed., London, 1898, 66.

Second. It is an artificially produced phenomenon.

Third. The essential portion of the phenomenon, the cardio-diastolic or arterio-diastolic, results from the backward flow of blood, produced chiefly by the vasomotor dilatation.

Fourth. Aortic insufficiency may exist without a double femoral murmur.

Fifth. The phenomenon is observed in other diseases, with perfectly normal and competent aortic valves.

9. *Femoral Tones*.—Traube¹⁶ has directed attention to the presence of a double tone, on auscultating over the femoral artery, in extreme cases of aortic insufficiency. To obtain this, no pressure is to be made; the stethoscope is simply to rest in contact with the skin. Traube believed the tones to be due to the sudden distention and collapse of the artery and indicating aortic insufficiency.

That Traube's explanation and conclusions are false, has been amply demonstrated by Friedreich,¹⁷ Balfour¹⁵ and others.

On auscultating over the femoral, not only two but frequently three tones may be heard, one of which, always the last, is relatively accentuated. If slight pressure be made, the systolic portion of a Duroziez is produced, which coincides in point of time with the accentuated portion of Traube's tones, thus demonstrating that at least a part of the phenomenon precedes the arterial distention. This means that the tones, in part, are probably produced in the vein by closure of the venous valves, and indicate not an aortic insufficiency, but a tricuspid insufficiency.

From the foregoing considerations of the peripheral findings the following conclusions become evident:

First. As a means of diagnosis, the peripheral signs are highly suggestive, but are not pathognomonic of aortic insufficiency.

Second. If associated with a cardiac hypertrophy and dilatation, even in the absence of a diastolic murmur, the existence of an insufficiency becomes most probable. In several instances, with marked dyspnea and loud râles, no murmur could be detected, but the probable diagnosis of an aortic insufficiency was made and later confirmed by section.

Third. The peripheral signs may be entirely absent in aortic insufficiency, when the diagnosis must be made on the cardiac findings.

Fourth. The peripheral findings may be of the greatest assistance in a differential diagnosis. A diastolic murmur over the base of the heart, particularly in the pulmonic area, in the absence of vascular signs, will indicate a pulmonary insufficiency; with the presence of vascular signs, will indicate aortic insufficiency.

Fifth. The peripheral signs, as a means of estimating the degree of the lesion, are of no assistance.

Sixth. Any or all of the arteriovenous signs of aortic insufficiency may occur with perfectly normal and competent aortic valves. Such may be the condition in pseudoaortic insufficiency, arteriosclerotic disease, in exophthalmic goiter, in vasomotor dilatation from any cause or where

16. *Gesam. Beit. zur Path. und Physiol.*, vol. i, S. 793.

17. *Deutsch. Arch. f. klin. Med.*, vol. xxi, S. 205.

there is an abnormal leak of arterial blood. In one instance, included in the post-mortem records, the clinical diagnosis was aortic insufficiency, with the most pronounced peripheral findings, but the section revealed the presence of a very small intrapericardial aortic aneurysm, with rupture into the pericardium. In another instance, not included in this series, with pronounced peripheral signs, the clinical diagnosis confirmed by section was aortic aneurysm with rupture into the superior vena cava.

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ARTERIOSCLEROSIS *

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In this age of excitement and of nervous exhaustion, in the attempt to imitate the birds of the air and of rapid transit by steam, gasoline and electricity, and by so doing try to accomplish unheard of feats, and also to crowd a year's work or pleasure into a few hours of time, it may be well for the medical profession to pause for a moment and consider the advisability of sounding a note of warning to reckless humanity in their madness, instead of joining and following this vast and excitable throng to a hasty dissolution of the body before the age of former maturity. It can be proved that dissipation of the various kinds produces arteriosclerosis more often in the young than diseases, excepting those which follow dissipation. It is true that a certain progressive change takes place in the arteries from early childhood to old age, but we should not find in the man of 30 years a condition of arteriosclerosis which belongs rightfully to the octogenarian.

Thayer tells us that at birth the artery is delicate, translucent, extremely thin and collapsing, and which on opening is perfectly smooth. The intima consists of a single endothelial layer lying directly on the surface of a deeply undulating elastic interna; the media, which consists of transversely arranged smooth muscle-fibers with rather large vesicular nuclei, has a depth of seven or eight layers of cells. Connective tissue if present in the intima and media is extremely scanty, none being revealed by the Mallory or Van Gieson stains. There is, however, a relatively large amount of elastic tissue which appears on cross-section as very thin, parallel, slightly wavy lines. The elastica externa is neither as coarse nor as deeply undulating as the interna. The adventitia, considerably thicker than the media, consists of compact connective tissue fibers with relatively large nuclei, and the elastic fibers are fairly numerous. By the middle of the first decade the intima has become thicker, owing to the appearance of a fresh layer of elastic interna, while more muscle fibers appear in the media. From the tenth to the twentieth year the walls of the vessels become thicker but still collapse; the intima and media are thicker, the elastic tissue being relatively less marked. From

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

twenty to forty slight general further thickening of intima and media occurs, a second elastic layer appears in the intima, and in the media the connective tissue begins to be demonstrable by Von Gieson stain. From forty to fifty years decided changes occur; the lumen of the vessels remains open, areas of calcification in the deep layers of the intima are frequent; the media reaches the maximum thickness; there is a good deal of connective tissue. After the fifth decade there is a progressive increase in the thickness of the intima and a diffuse connective tissue thickening becomes the common type. The media after the fifth decade becomes on the whole thinner and there is a marked increase in the connective tissue. Calcification in the deep layers of the intima becomes more common with age, four out of five cases in the eighth and ninth decades showing the change.

Arteriosclerosis, according to some writers, is characterized by the occurrence of changes in and thickening of the intima which was supposed to be due to the depositing of cells directly from the blood stream. Other writers claim it to be a true inflammatory hyperplasia as the result of some formative stimulus; still others, to be a compensatory thickening of the walls in order to diminish the lumen of the vessels after the stretching which occurred under the increased blood-pressure with which it was usually associated. Jores, on the other hand, regards this as a true hyperplasia resulting from the high blood-pressure, but independent of the lumen of the vessels. These observers consider the changes in the intima as primary, and neglect the second important change which characterizes arteriosclerosis, namely, inflammatory changes within the media.

Koster, after a very careful study of the inflammatory process by means of serial sections and injected specimens, calls attention to the importance of degenerative and calcareous changes in the media and adventitia as well as in the intima. He claims that the arteriosclerosis lesion always takes its origin in the adventitia as an infiltration surrounding the vasa vasorum like a sleeve and this infiltration followed the vasa vasorum into the media. He found that in the normal artery the vasa vasorum do not pass deeper than the outer third of the media. In certain arteries, however, notably those of the brain and lungs, there was a fine capillary network penetrating the deeper layers of the media as well and spreading along the media surface of the elastic interna. Ebner confirms this view by stating that the media of the larger arteries and veins contain blood-vessels, though in small numbers and only in the external layers; whereas the inner layers of the media and intima seem to be always free from vessels.

If the above theory be true it must also be true that the infiltration about the vasa vasorum follows these paths and sets up an area of infiltrating necrosis and calcification in the smooth muscles and elastic fibers of the media. When it penetrates to the elastic interna a small area is first injured, the inflammation acts as a stimulus, and hyperplasia of the intima sets in, the intima becomes thickened until it undergoes spontaneous fatty degeneration, after which they either calcify or the capillary

network penetrates through the elastic interna and a true process of organization and proliferation of connective tissue goes on.

It is said that the number and size of the vasa vasorum and the richness of the capillary network are always increased in arteriosclerosis and phlebosclerosis. Endarteritis occurs only in arteries that have vasa vasorum, that is, in the larger arteries and in the smaller arteries of the brain and lungs.

The lesions of arteriosclerosis have been classified as follows:

1. Where the adventitia is chiefly affected and the arterial wall not weakened. In this class it may be localized or produce nodular infiltration. Again infiltration may be diffused about the vasa vasorum, producing inflammatory thickened arteries, giving the sensation of thick rubber tubing.

2. Another class is where the lesions of the media predominate, producing a weakening of the arterial wall, very common in syphilis. Under this class we find localized necrosis of elastic tissue with calcification known as atheroma, and pipe-stem or goose-neck arteries. Again under this class is found diffused or patchy medial fibrosis with more or less calcification, often leading to aneurysm.

3. A third class is where changes in the intima predominate without weakening the arterial wall. First, we find hyperplasia of intima with fatty degeneration at its center, producing aortitis; with calcification of the area of fatty degeneration producing atheromatous ulcer and endarteritis deformans. Second, under this class we find simple hyperplasia of intima, diffuse endarteritis. Third is found obliterative endarteritis in which the process is still more chronic and intense and capillaries enter from the vasa vasorum.

Peri-arteritis nodosa, according to Kussmaul, is one of the rare forms of arteriosclerosis, produced by the formation of small areas of nodular infiltrations in the adventitia. It gives the vessels a nodular appearance and consistency and is associated with inflammatory changes of the media and a local proliferative endarteritis. In diffuse peri-arteritis is found the thickening of the adventitia more commonly occurring about the arteries of the brain and coronary arteries in myocarditis, also common in the radial. The uniformly thickened arteries which are so commonly met with in the young or middle-aged persons who do hard work are of this type. Whether such changes are permanent or transitory has not been settled as yet.

The rigid pipe-stem form of arteriosclerosis of the radial arteries of old persons is produced by the presence of areas of degeneration and calcification within the tunica media. This condition occurs without any changes in the intima, and is the type of arteriosclerosis found in animals with bacterial toxins, acids, adrenalin and alkaloids, according to Monckeberg.

According to Klotz, Wells and others calcification is produced as a result of inflammatory changes, the muscle-cells degenerate and the lecithins become split up into fatty acids, glycerophosphoric acid and cholin, causing the appearance of fatty degeneration. The calcium and magne-

sium in the serum then enter into combination with the phosphoric acid and are precipitated to form calcareous granules in the media. Baldauf finds that most of the calcium is in the form of phosphate and sulphate and very little as carbonate.

Klots finds that the calcium is by no means always deposited in the patches of atheroma, but exists also as rows of fine granules between the muscle-fibers. In this condition it causes a slight increase in the rigidity of the artery. When the necrosis of the artery wall proceeds more slowly, the phosphoric acid or glycerophosphoric acid derived from the lecithin is removed by the blood-vessels that are in the capillaries of the vasa vasorum which enter the diseased area of the media, and the injured elastic tissue is replaced by fibrous tissue without the deposition of calcium; but whether the calcium is deposited or not, the area of diseased media constitutes a weakened portion of the wall and is the lesion which in the large arteries is particularly responsible for aneurysm formation.

Virchow and Thoma believe that the fundamental lesion in arteriosclerosis is thickening of the intima; that some formative stimulus produces inflammatory hyperplasia within the blood stream; that this stimulus was the mechanical factor of high blood-pressure, and that the thickening of the intima represented a compensatory hypertrophy to prevent aneurysm dilatation. Others believe that the formative stimulus is chemical and not mechanical.

It may be unwise to state positively the direct cause of arteriosclerosis, since the patient may have had a number of diseases, any of which may produce arteriosclerosis. A man may have worked from youth to old age; he may have had syphilis, typhoid fever, rheumatism and drunk alcohol, all or any of which may produce arteriosclerosis.

Thayer and Brush examined carefully the radial artery of 4,000 cases admitted to the Johns Hopkins Hospital, and found arteriosclerosis in the following percentage to exist in those under 50 years: hard work, 57.5; alcohol, 46.8; rheumatism, 34; typhoid fever, 26; malaria, 20; diphtheria and pneumonia, both 17; scarlet fever, 16.

Fahr performed autopsies on 309 habitual drunkards and found arteriosclerosis changes no more common than in abstemious individuals. Syphilis is one of the chief causes of arteriosclerosis, especially below the age of 35. Other causes are lead poisoning, chronic nephritis, overeating, gout, anger, intense excitement of any kind, overwork, mental or physical, in fact any condition that may produce high blood-pressure. Heredity is said by Osler to be a strong factor. Entire families show a tendency to arteriosclerosis which cannot be explained in any other way. Emerson found that drinking alcohol was more apt to produce arteriosclerosis in the offspring and thereby shorten the life of the children than of the individual himself. Inhaling tobacco smoke, especially from cigarettes, is probably one of the most dangerous factors in producing arteriosclerosis of the present age, the smoke entering the heart directly from the pulmonary circulation. The nicotin entering the lungs strikes its first blow at the coronary arteries and base of the aorta, where the elastic fibers are under the greatest tension and hence most liable to degenerate. The cigarette habit indulged in so universally to-day leads by far all other

agencies combined in undermining and weakening the heart, brain and the general constitution and usefulness of the youths who are so soon to take our places on the stage of action. This weakened condition is, of course, in direct proportion to the powers of resistance of the individual. Should this habit increase as rapidly in future years as it has during the past few years, I believe it would be justifiable to prophesy that before the close of this century we will be a nation of weaklings, governed either by strong-minded women or a stronger foreign nation.

If the physicians instead of practicing this dangerous habit would unite in its overthrow, as we are united against tuberculosis, after years of patient effort we might succeed in convincing the younger generation of the great danger of this habit.

Aubertine and others have found hyperplasia of the adrenals present in many experimental and clinical conditions in which hypertrophy of the heart and high blood-pressure are present. Therefore in the light of these findings it seems quite probable that hypertrophy of the heart and arteriosclerosis may often be the result of a hypersecretion of adrenalin.

Harlow Brooks has given the following statistics as to distribution of arteriosclerosis lesions in 4,000 autopsies: aorta, 301; visceral trunks, 368; coronary arteries, 270; brain, 132; renal, 81; pancreas, 74; hepatic, 43; splenic, 35; spinal, 120.

The manifestations of arteriosclerosis are almost innumerable. We will name a few but time will forbid a description: cardiac, associated with myocarditis and coronary sclerosis; simple coronary sclerosis; angina pectoris, Adams-Stokes' syndrome, tachycardia, paroxysmal dyspnea, cerebral symptoms, aneurysm, pain in abdomen, pain in arms and legs, nervousness, insomnia, transient irrationality, numbness of feet, legs and hands, and many other symptoms may be traced to arteriosclerosis.

It should be borne in mind that because we do not find the radial artery sclerosed this is no reason that it does not exist in other arteries. We have not the time to dwell on the treatment. Potassium iodid perhaps has a greater following than any other medicine. A patient with arteriosclerosis should be given to understand that more depends on his mode of living and habits than on medicine. A quiet life, avoiding all excesses and excitement, anger especially, the inhaling of tobacco smoke from cigarettes, a light diet, never overeating, a strictly temperate life in all things, will assist Nature toward the desired normal condition.

PREVENTION OF BLINDNESS *

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It has been said by some one that "preventives of evil are far better than remedies; cheaper and easier of application and surer in result."

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

Efforts which have been more or less successful have been put forth to prevent crime, immorality, accidents, pain, etc., but until a comparatively recent date very little has been done to guard against that most deplorable and dreaded of all infirmities, blindness, the number of whose victims has continued to increase from year to year.

Of the blind people of the world it can be safely said that over 40 per cent. are unnecessarily deprived of their sight as a result of ignorance, neglect and carelessness. Such an assertion is borne out by facts, and this in an age whose watchword is prevention.

Preventable blindness is due to numerous and varied causes, among them being: industrial accidents; accident at play; Fourth of July celebrations; sequelæ of some of the infectious diseases; wood alcohol; sympathetic inflammation; syphilis, hereditary and acquired; progressive near-sightedness; eye-strain of various kinds, particularly among school children, and ophthalmia neonatorum.

It is incumbent on those who desire to ameliorate the conditions of a struggling humanity to investigate and eliminate any administrative fault, any kind of neglect, any form of abuse, which may justly be cited as the cause for a single case of unnecessary blindness. Surely any cause which results in such deprivation to a single human being merits the most careful investigation, with a view to such complete elimination that no person will be deprived of the light and find himself in a world of unnecessary darkness.

The first steps have been taken toward suppressing one cause of blindness, namely, ophthalmia neonatorum, which for years resulted in more blindness, with the exception of optic-nerve atrophy, than any other local affection. The micrococcus of gonorrhea is responsible for approximately two-thirds of all the cases of ophthalmia neonatorum, this microorganism being readily found in the discharges resulting from the infection, especially in the more severe and complicated forms. Various microorganisms, such as pneumococcus, Koch-Weeks bacillus, Morax Axenfeld diplobacillus, streptococcus, etc., are responsible for the other third, these cases representing the milder and less dangerous to sight types of the inflammation.

The necessity of an early and exact diagnosis is important. This necessitates a bacterioscopic examination of the secretion from the inflamed conjunctiva. Unless the conjunctival inflammation be due to the gonococci, the cornea is rarely affected. Although it is true that almost all severe cases of ophthalmia neonatorum are due to the gonococcus, it does not necessarily follow that every case in which gonococci are found will be a severe form of the disease. Even in the mildest forms complications may develop at almost any moment. On the contrary, what sometimes appears from all clinical appearances to be gonorrheal ophthalmia, sometimes turns out on bacteriologic examination to be due to some other microorganism. The type of inflammation is milder and generally responds quickly and readily to treatment. Complications are seldom present and the cornea is rarely affected. The baby's eyes may become infected

1. Before the act of birth, while in the uterus.
2. During the act of birth.
3. Almost immediately after birth.
4. One or several days after birth.

In most cases infection takes place immediately after birth; the morbid secretion collected around the eyelids during the act of birth is carried into the conjunctival sac after the child is born, by the winking of the eyelids, by the fingers of the infant or attendants, or by towels and other materials used to wash the child. This is the period at which great care should be exercised and every precaution taken to guard against infection. A baby normally passes through the vagina with eyelids closed, sealed with the vernix caseosa, so that it is scarcely possible for any secretion, morbid or otherwise, to penetrate between the lids and cause infection. Such infection, however, might occur during face presentations, the applications of forceps, or during digital explorations on the part of the physician.

Symptoms.—The first signs of infection usually make their appearance in one to three days after birth. One eye is usually affected first, the other soon following. One of the earliest signs of infection is that of Billard, which is a narrow, transverse red line appearing in the center of the upper lid. This is soon followed by a slight swelling of and redness along the edges of the lids and the appearance of thin mucopurulent discharge exuding from between the lids. The lids quickly become red, hot, swollen and tense, the upper lid often overhanging the lower. Owing to the secretion, which becomes thick and yellow with frequently a greenish tinge, the lids are with difficulty separated and everted. Many times a thin grayish membrane forms on their under surface. The everted lid shows the conjunctiva to be thickened and vascular. The ocular conjunctiva is red and chemotic, but not so swollen as to overlap the cornea, as in the gonorrheal ophthalmia of adults. If the case is not given immediate attention, the cornea may become opaque and ulcers develop, eventually ending in corneal perforation. Exceeding care should be exercised in separating the lids so that the eye-ball may not be subjected to a pressure which increases the danger of perforation of the cornea. When this occurs, the iris prolapses and an anterior staphyloma begins, resulting in the loss of sight. In still fewer cases the sight is quickly destroyed from septic inflammation of its interior.

Treatment.—After the disease has manifested itself, the treatment consists in the vigilant practice of cleanliness, the destruction of the noxious germ and the subduing of the inflammation. The inflamed eyes should be kept free from pus by frequent and gentle irrigation with warm antiseptic solution. This treatment given every half hour is not too frequent. It is necessary to exercise gentleness in these treatments, for force might injure the cornea. Hot applications should be applied at least every hour. The destruction of the microorganism is best accomplished by means of nitrate of silver solution to be applied to the everted lids in a 2 per cent. solution at least once daily, and the excess washed off with either saline solution or plain water.

Nitrate of silver is more valuable than any of the new preparations of the silver salts, such as protargol, argyrol, etc. It is well, however, to use these to supplement the nitrate of silver. If the cornea becomes infected, atropin should be instilled in 0.5 to 1 per cent. solution, and any ulcers present may be cauterized. All cloths, etc., used for bathing the lids should be burned immediately after use. All persons brought in contact with the infant should be warned of the danger from possible infection.

Prevention.—It is generally recognized throughout the world that infection of the eyes of new-born children by a purulent inflammation caused by one of several microorganisms is one of the chief causes of blindness. Previous to 1881 the children born had their eyes so frequently infected with a purulent inflammation, which was disastrous to sight in such a large percentage of cases, that investigators had been endeavoring from time immemorial to find some remedy that would prevent infection. Literature abounds with remedies innumerable. In the early part of the last century efforts were made to find some method of preventing the disease by first removing the disease in the mother during pregnancy, and if this was not successful to get rid of as much discharge as possible from the vagina during the birth of the child, and to thoroughly cleanse the eyes of the child immediately after delivery with a solution capable of destroying the action of the discharge. This was more or less the line of procedure followed by the majority of men, a variety of prophylactic measures being recommended, among them being chlorin water, salicylic acid, thymol, potassium permanganate, benzoic acid, tannin, iodoform, carbolic acid and various other remedies too numerous to mention, each having its advocate as a means of preventing infection. All observers were united in one point: that whatever procedures were adopted they should be used the instant the head was born and before the baby had time to open his eyes. Nothing seemed to avail until in the year 1881 Prof. Carl Credé of Leipsic, after many a careful and scientific investigation, gave to the world a prophylactic the use of which has been the means of diminishing the number of infections in the eyes of new-born babes, and saving thousands of them from passing their days in darkness. His treatment consisted of a single drop of a 2 per cent. solution of silver nitrate, simply dropped into the baby's eyes as soon as convenient after birth.

The details of the method which Credé used are important and also interesting. After various experiments with different antiseptics, the eyes of all new-born children in the clinic were cleaned immediately after birth with ordinary water and then disinfected by means of the silver nitrate solution. After the assistant had gently separated the eyelids a single drop of the solution was placed in the eye by means of a glass rod. For twenty-four hours after the application, the eyes were cooled by means of a linen fold soaked in a 2 per cent. solution of salicylic acid laid over them. Babies undergoing such treatment were saved from ophthalmia, notwithstanding the fact that many of the mothers were evidently suffering from blennorrhea. Not infrequently the eyes became

somewhat congested, accompanied occasionally by a slight discharge after the use of the silver drops, but this subsided with appropriate treatment and was never serious.

That Credé's plan was successful is evident as the percentage of cases of ophthalmia in the Leipsic clinic declined from an average of 10.75 per cent. in the seven years to 0.5 per cent. in 1880. A still more convincing testimony to the success of Credé's procedure is the overwhelming fact that during the three years following this discovery, there was only one case of ophthalmia among 1,160 children born alive. Throughout all parts of the civilized world medical men have made similar reports of equally effective results. Striking testimonials to the success of Credé's plan are given conspicuous place in medical literature. It has been shown by Köstlin that, previous to the adoption of the nitrate of silver treatment, the number of cases of ophthalmia in the practice of thirty-two observers ranged from 2.25 per cent. to 59 per cent., and averaged 9.24 per cent. After the adoption of the Credé treatment among 24,724 babies, ophthalmia varied from zero to 1.93 per cent., an average of 0.655 per cent.

There has been much objection to the use of nitrate of silver on account of the exceptional cases of hyperemia of the conjunctiva following its use, but this has never been severe, if the procedure as recommended by Credé has been carried out according to his directions. The solution should be neutral, or only slightly acid in reaction, and not more than 1 drop of this solution should be instilled into the conjunctival sac, and should not be repeated. This is preferably done by means of a glass rod. If the infection has already taken place, a single instillation of the nitrate of silver would not abate the disease. Experiments have been made with various antiseptics, especially with the newer silver salts, which are undoubtedly less irritating to the conjunctiva, but it has been found that although in some cases the use of solutions of argyrol and protargol have shown a certain amount of efficiency as a preventive of ophthalmia neonatorum, they have not as yet been given sufficient trial to be preferred to nitrate of silver. From the statistics collected by Sydney Stephenson, it goes to prove that weaker solutions than 2 per cent. are efficacious. The 1 per cent. solution is fully protective and is to be regarded as absolutely prophylactic.

Even with this means at our disposal numerous cases occur in which this prophylactic has not been used and the results of the neglect are only brought to our notice when statistics are sought as to the cause of blindness. In America it is exceedingly difficult to ascertain how general is the ophthalmia of new-born children and what results follow it. It is impossible to state definitely the exact percentage of blindness due to this cause. In the United States there are more than 10,000 persons blind from ophthalmia neonatorum who, if ordinary precautions had been taken at the time of birth, would to-day have their sight and be useful members of society. Statistics are sadly deficient, but it is nevertheless a fact that there are many cases of infantile blindness as the result of ignorance and neglect at the time of the birth of the child.

The most recent report of the Committee on Ophthalmia Neonatorum of the American Medical Association, based on statistics taken from the records of ten schools for the blind in eight states of this country and from the Province of Ontario, has shown that 28.69 per cent., or over one-quarter of the whole number admitted to these schools, were blind from a cause that was preventable. The report of the Pennsylvania School for the Blind, covering a period from 1900 to 1907, inclusive, eight years in all, 33.36 per cent. of the pupils admitted had lost their eyesight as a result of ophthalmia neonatorum. From such reports from states where every facility is given to attain the highest standard in sanitation and guard against unnecessary disease, it is logical to reason that at least the same proportion of blindness from this cause exists in other communities where like precautions are not strictly adhered to. This can only be determined when exact statistics can be obtained. Ophthalmia neonatorum is preventable, but owing to the lack of proper laws, it is difficult to determine the frequency of its occurrence, the conditions under which it exists and the best methods by which results may be attained in protecting the eyes of the new-born child.

Ophthalmia neonatorum is forcibly called to our attention not because of its frequent occurrence but because of the disastrous results that it produces, total or partial blindness. Although it is no respecter of persons, it is much more frequent among the very poor and neglected than among those in the higher and more favored walks of life.

That ophthalmia neonatorum is a preventable disease has been conclusively proved, if proper care is exercised at the birth of the child, and it can be cured if effective treatment is begun immediately on the development of the disease. On the other hand, ophthalmia neonatorum is fatal to sight unless prophylactic and curative measures are promptly taken, and finally results in total blindness through the destruction of the eye-balls.

The public must be educated not only to the existence of such a disease and the terrible consequences that may result from its presence, but to the fact that it is preventable. They must also be made to realize that their aid is necessary in securing such legislation as will make compulsory the use of such measures as will prevent this disease, if we wish to protect the children of the coming generations from total blindness. The movement to stamp out this disease resembles very much the fight that is being carried on against tuberculosis. The medical profession requires the backing and support of the laity, who working together will be able to wake up the interest of the general public as to what is required to protect the infants of the future against blindness. Education in the movement may be carried on by means of a wide distribution of literature, leaflets and various forms of propaganda, photographic exhibits, lantern slides, press notices, magazine articles and public speaking before all kinds and grades of audiences.

The statute books of many states contain laws relating to the prevention of ophthalmia neonatorum, but unfortunately these laws have become more or less of a dead letter, and an effort should be made requir-

ing their enforcement. If this were done and a few prosecutions obtained for failure to adhere to the law, much benefit would be reaped in the fight for the prevention of blindness from ophthalmia of the new-born.

Laws should be passed which would require state control of the blind. All cases of inflammation of the eyes of new-born babies should be reported by physicians and midwives. Provision should be made for the care of all such cases in hospitals, and appropriations should be forthcoming in order to provide for the education, registration and regulation of midwives. Births should be reported early and the question asked in each certificate, "What preventive for ophthalmia neonatorum did you use? If none, state the reason therefor."

One of the most important factors in the suppressing of the disease is the registering and licensing of midwives, for many of these women are hopelessly ignorant, dirty and careless, and that they play no small part in the effort to check this disease must be admitted. In the year 1907, 42 per cent. of the births occurring in New York City were attended by midwives; while in Chicago last year they attended over 20,000 of the 50,000 births reported. On the other hand, the figures collected from among physicians have proved to be somewhat discouraging. A recent investigation made in Massachusetts, under the direction of the Boston School for Social Workers, disclosed the surprising fact that out of ninety-seven doctors visited (these doctors having been selected because of their reasonably large obstetrical practice), twenty-seven always used a prophylactic, forty seldom did so, twenty-eight never used a recognized preventive, although the last admitted that they sometimes employed warm water, lemon juice, citric acid, lard, camomile tea, etc.

THE COST FOR ONE YEAR OF NEEDLESS BLINDNESS IN NEW YORK

Cost for education and maintenance of those blind from ophthalmia neonatorum at Batavia School for the Blind in one year	\$14,260.05
Education alone in school for the seeing (public schools) would have cost	1,050.00
Excess cost paid by the state at Batavia	\$13,210.05
Cost for education and maintenance of those blind from ophthalmia neonatorum at New York Institute for the Blind in one year	\$18,904.40
Education alone in school for the seeing would have cost	1,200.00
Excess cost paid by state in New York City	17,704.40
Total excess in one year for unnecessary blindness	\$30,914.45

THE COST OF NEEDLESS BLINDNESS IN OHIO

Victims of ophthalmia neonatorum in State School	64
Per capita cost in State School (average)	\$340.00
Maintenance and expense, per capita cost seeing schools (average)	30.00
Maintenance private expense, per capita excess for needlessly blind	310.00
Total annual excess cost for maintenance and education of those whose sight might have been saved	\$19,840.00

The cost for maintenance and education for each child in the New York State School for the Blind, at Batavia, is \$407.43 per year, while

it costs the state but \$30 per year for each child attending the public schools of Buffalo—an excess of \$377.43 to be provided by the state for each blind child—and one-third of the children at the New York State School for the Blind are victims of ophthalmia neonatorum.

This total of more than \$50,000 expended annually in two states for the support of ophthalmia neonatorum victims does not include appropriations made by the state to private institutions, nor the cost of maintaining and educating the blind children at private expense. Nor does it take into account the incalculable loss to the state, in many instances, of one of its most valuable assets—a productive citizen. Argument seems unnecessary, when we contrast with these figures the estimated loss to the State of New York of \$5,000 annually for a free distribution of a prophylactic against ophthalmia neonatorum, while the estimate to meet the need in Massachusetts is \$2,500.

In a recent report of the Illinois School for the Blind at Jacksonville, 17 per cent. of the inmates were blind as the result of ophthalmia neonatorum. Sixteen of the thirty-two children in the kindergarten had lost their sight from this disease.

From these figures, is it asking too much of this state that proper legislation be enacted, making it compulsory to use such preventive measures that will protect its citizens from the untold misery of blindness? Helen Keller says regarding the prevention of blindness: "Once I believed that blindness, deafness, tuberculosis and other causes of suffering were necessary, unpreventable. I believed that we must accept blind eyes, deaf ears, diseased lungs as we accept the havoc of tornadoes and deluges, and that we must bear them with as much fortitude as we could gather from religion and philosophy. But gradually my reading extended and I found that those evils are to be laid not at the door of Providence, but at the door of mankind."

"The problem of prevention should be dealt with frankly. Physicians should take pains to disseminate knowledge needful for a clear understanding of the cause of blindness. The time for hinting at unpleasant truths is past. Let us insist that the states put into practice every known and approved method of prevention, and that physicians and teachers open wide the doors of knowledge for the people to enter in. The facts are often revolting, but it is better that our sensibilities should be shocked than that we should be ignorant on subjects on which rest sight, hearing, intelligence, morals and the life of the children of men. Let us do our best to rend the thick curtain with which society is hiding its eyes from unpleasant but needful truths."

7 West Madison Street.

DISCUSSION

Dr. J. Whitefield Smith, Bloomington: Dr. Woodruff was kind enough to let me know something about the nature of his paper and the manner in which he was going to treat this subject. I have made a note of two or three things which I desire to call attention to particularly. The paper is an excellent one, and one that is very practical, as we all must agree, from the fact that it is one that does not belong entirely to the specialist. These cases do not come to the specialist first-handed, but usually go to the general practitioner first,

and for this reason it seems to me this paper is one that interests both the general practitioner and the specialist.

Since the days of Neisser, 1879, ophthalmia neonatorum has been regarded as due to a microorganism, the gonococcus. I believe that has been generally recognized.

Dr. Woodruff has told us about the Credé plan by which great good has been accomplished. It is a well-known fact that infection may take place even earlier, that is, before the Credé method can be used. Indeed, children have been born into the world blind, or children have been born into the world with blennorrhea already existing and advanced. Children have been born in which the cornea has already been destroyed. We have no means of reaching or protecting the individual's eyes in cases of this kind. The question naturally arises from this, "Are there any methods or any plans which can be suggested or brought to the notice of the profession, or be developed by the profession, whereby the new-born child's eyes may be protected?" It is also a well-known fact that most pregnant women have a catarrhal secretion. In most instances this secretion is benign, while in other cases it is virulent or gonorrheal in its nature. If we could obtain some knowledge in advance, a method might be inaugurated whereby the child's future vision may be protected. I believe, as a routine practice, there is nothing of this kind established. Perhaps in large maternity hospitals a uniform practice is adopted in dealing with these cases, but the general practitioners we meet down through the state do not have the opportunity to make investigations, to make bacteriologic examinations and determine this thing in advance, so that we have to be content with the best we can do in the light of what we have, so far as observing antiseptic precautions at and during the time of parturition or labor.

Another thing I desire to speak of, to which your attention has been called, is the fact that the public mind needs to be educated in these matters; that there must be necessarily a conscience awakening on the part of the laity, which is very important and imperative, in order that we may secure more attention in public matters of sanitary science and in the prevention of disease than has heretofore been inaugurated. In this way we may get better enactment of laws, better protection of society and humanity in general. The subject has been ably discussed, and I only need to call your attention to this in a word or two in passing.

Another point I want to speak of and to emphasize is, that the general practitioners usually are the ones who see these children who have diseased eyes, or whose eyes are infected, and in cases of blennorrhea which come on in a few hours after the birth of the child, it is highly important that these cases should be recognized early and methods inaugurated at once which will be of benefit in preserving the vision of these children. The general practitioner comes in contact not only with these cases, with the individual children, but he comes in contact with the laity perhaps more than the eye specialist or any other special field of practice I might mention, and for this reason it seems to me he has an opportunity to call attention to the prevention of blindness and to the infection and trouble that originate from germ disease, and in this way the public mind and the public conscience can be awakened so that we may have a better opportunity of having proper laws enacted.

Dr. A. L. Adams, Jacksonville: Speaking of the School for the Blind at Jacksonville, I thought it might be of interest for you to know that one-third of the inmates of that institution are there as the result of blindness which might have been prevented, and the proportion of cases is very similar to what Dr. Woodruff has said. Ophthalmia neonatorum and acute inflammations of the conjunctiva are the principal causes, trachoma and accidents following closely after.

In regard to the cases of ophthalmia, I notice that Dr. Woodruff said 50 per cent. of the cases of confinement in Chicago were treated by midwives. I do not know the facts, but at the Child's Welfare Exhibit in Chicago the percentage

is put at 86, leaving only 14 per cent. of the cases as being attended to by physicians.

In regard to the accidents, I have seen a great many of the pupils at the School for the Blind who were there as the result of blindness where the eyes received penetrating and other injuries. Some of them had not seen a physician at all. The accident was looked on as a trivial affair because there was no great amount of inflammatory reaction following the injury or accident. The important point to know is that every penetrating injury of the eye is a very serious matter and should receive not only attention at the time, but it should be followed up in order to avoid the development of sympathetic ophthalmia. A solution of the problem to me appears to be one of education. It must be necessary that the people should know the facts, and I believe when they learn the possibility of the prevention of blindness, that by a campaign of education, such as has been carried on with reference to tuberculosis, then we can have early treatment which will result in the prevention of a large number of cases of blindness.

Dr. A. H. Burr, Chicago: Dr. Smith raised the pertinent inquiry when he stated what could be done to protect the unborn child from ophthalmia neonatorum. I think a number of things can be suggested that ought to be pregnant in the way of arousing thought and educational interest along this line. I came into the medical profession at a stage when the treatment of gonorrhea in the office of the average practitioner was looked on by many of our over-pious hypocrites with disdain, and many a young man was turned away from the office of a physician to whom he applied for treatment with the discouraging statement, "You have a loathsome disease; it serves you right. I do not treat clap." If there is any body of men in the medical profession for whom I have profound respect it is the genito-urinary surgeons. I am not one of them. I look on every man who is conscientiously engaged in the treatment of gonorrhea in the male or female as a man who is engaged in prophylaxis, a man who is engaged, if you please, in the prevention of ophthalmia neonatorum.

My idea of the prevention of ophthalmia neonatorum goes back to the instillation of nitrate of silver into the eye of the new-born. If you want to protect the new-born, which Dr. Smith spoke of, where gonorrheal destruction of the eye has even occurred before the birth of the child (and I can conceive very readily how it can be done), then I say protect the mother against gonorrhea. How are you going to do it? I know of no way except to protect her at the license window, where the marriage certificate is obtained. You can protect her there only by appropriate legislation in which both candidates have to come under medical inspection, and they must approach that window for a license with a certificate of freedom from infectious disease. I believe it should be done in every marriage. In that way we will shut off a great deal of ophthalmia neonatorum where the infection has antedated marriage. I believe infection antedates marriage in candidates in probably 75 per cent. of the cases. If 75 per cent. of all males, sooner or later, contract gonorrhea, I think a large proportion of that gonorrhea is carried over at the time of marriage.

Dr. Arthur R. Reynolds, Chicago: This is a most interesting and instructive paper, and when the information contained in that paper and its discussion become public, and the public understand it, I believe a great deal will be done to wipe out preventable blindness. To that end, I would like to have Dr. Woodruff in his closing remarks tell us what is necessary for the obstetrician or the midwife to do for the eyes of the new-born on the day of parturition.

Dr. Garrison: I am interested in this subject from the standpoint of a general practitioner, and a country practitioner at that. The paper dealt largely with the question of ophthalmia neonatorum, and that is one that is comparatively foreign to the country doctor. I make mention of it because there is a difference in the experience between the practitioner in the city and the practitioner in the country, so that it may not be as thoroughly appreciated by all. My experience has been limited to 500 or 600 cases of confinement, and I have not had in my practice a single case of ophthalmia neonatorum, that is, of a severe

type. Occasionally I have had mild infections of the conjunctiva, but not of gonorrheal origin, but due to a lack of cleanliness or something of that sort. I do not take credit for this, because I have not used nitrate of silver. I would not discourage the use of it for a moment where it is demanded. I will simply say that all I have done has been to insist on cleanliness, the use of pure water when the child is born. Possibly, if I thought there was anything suspicious, I would use normal salt solution, particularly if the eyes became irritable or slightly inflamed a few days after birth, or I would use a solution of boracic acid. Aside from that, I can say that I have never had a well-developed case of ophthalmia neonatorum. What the general practitioner may do to prevent it is an important question, especially to those in the city, but it applies to those in the country as well.

I am sorry Dr. Woodruff did not mention some other sources of blindness with which the general practitioner comes in contact first, and is not very well able to cope with it. Dr. Adams made reference to it, and that is the question of corneal ulcers or trachoma which leads to corneal ulceration. The general practitioner comes in contact with such cases very frequently in my experience, much more frequently than he does with ophthalmia neonatorum, and the results are disastrous if he neglects it. Timely treatment will prevent ulceration following and the blindness which will occasionally follow from ulcer. Advice along that line will be generally appreciated.

Dr. William H. Wilder, Chicago: There is one phase of this question I would like to touch on particularly, because it has been brought out in recent studies of the question, and that is as to the importance of treatment of these cases once they have come into the hands of the general practitioner. It has been developed by the studies of the sociologists, who are interested in the question of prevention of blindness, that the enforcement of the statute which is on the statute books of different states is largely due to the efforts of the men who have been interested in this subject in the last generation, requiring all midwives to direct a case of inflammation of the eyes occurring within two weeks after birth to the practitioner of medicine for treatment, and they should be able to recognize the danger of inflammation of the eyes occurring within two weeks after birth.

Now, it develops, and it is a lamentable fact, that many practitioners of medicine to whom such cases are referred, either become rusty in their knowledge of the treatment of such cases or they have never acquired it, because I personally know of many cases that came from practitioners who had not treated them correctly, and the result has been a destructive ulcer of the cornea. We may as well admit it among ourselves, that many physicians are not qualified to treat these infectious diseases of the eyes of the new-born. It is simple enough, after all, and many cases have not been properly treated before destructive ulceration of the cornea occurred. I think it will be the consensus of opinion among all ophthalmologists that the great majority of these cases will not go on to ulceration of the cornea because of the peculiar resisting power of the cornea in children, which is in marked contrast with the resisting power of the cornea in the adult. The expert ophthalmologist in cases of gonorrheal ophthalmia in adults can count on the majority of them losing the cornea, in spite of anything he does, and it seems hardly necessary to direct attention to the fact that the tissue of the older eye does not have the resisting power that it does in the young. The practical point is this: we have these statutes on our books in this state, but they are not enforced, so that they are practically a dead letter. There is a statute on our books in Illinois directing all midwives who notice the development of a catarrhal inflammation of the eyes within two weeks after birth, to direct the case to a competent physician for treatment. If such a case is sent to a physician for treatment and is not properly treated, the evil is done and is as great as it was before. We must cooperate with the movement now under way and amplify the laws on our statute books, have them amended so that this disease is classed as one of the dangerous contagious diseases. No one particularly wants to treat a case of ophthalmia neonatorum. It is a disagreeable task at best, and it seems to me that one practical point we should be unanimous on is to make

this disease in a sense one of the dangerous contagious diseases, and have a law enacted requiring that such cases be referred to the health authorities—the local health authorities—who in turn will direct an expert to cope with them just as we have experts in small-pox and other diseases. In the local health departments there will be found someone who can properly cope with this disease.

And now a word or two in regard to the treatment by the general practitioner in another prevalent form of blindness, frequently met with in manufacturing and mining districts, and that is the blindness which results in infectious ulceration of the cornea, which in many cases goes on to complete destruction of the eye, purely and simply, because the man who first saw it did not recognize its true nature, considering it a mild affair, but we know that a little fire after it is started may turn out to be a great conflagration. If our general practitioners were a little more conversant with the treatment of these trivial ailments, many an eye could be saved from complete destruction. Those who work in the large eye hospitals in Chicago recognize the importance of this. If you can remove a foreign body and disinfect a slight wound produced by that foreign body, a bit of coal, or a cinder, or a particle of steel, you can save the eye, but if a serpiginous ulcer results, it may lead to a destructive panophthalmitis.

Dr. Woodruff (closing the discussion): In regard to the question of what should be done when we suspect the presence of the gonococcus and danger of the baby's eye becoming infected. One drop of a 1 per cent. solution of nitrate of silver should be instilled into the baby's eye at birth. It is not going to do harm. It is much better that a little irritation of the conjunctiva should follow than that the child should be neglected and a purulent inflammation be set up and the child become blind the rest of his life. One drop of a 1 per cent. solution of nitrate of silver dropped between the lids may set up an irritation, but it will respond very quickly to treatment, such as cold applications, irrigation with boric acid solution and cleanliness.

In regard to protecting an eye that is not infected, the best means I think we have at our disposal is what is called the Buller shield. This is a watch glass placed in front of the sound eye, held there by a piece of plaster, with a small opening, so that the tears can run out and air can get into the eye. This will protect the sound eye as effectually as anything with which I am familiar.

Dr. Adams spoke of 86 per cent. of the cases being attended by midwives in Chicago. These statistics are for the year 1904, according to the number of reported births, but I do not think they were all reported. In the last report, last year, there were reported about 50,000 births in Chicago, and between 20,000 and 25,000 of these births were attended by midwives. Those are the figures given out by the health department.

During the last week there was started in Chicago a movement for the establishment of a society for the prevention of blindness and the conservation of vision. You will hear more about this during the next twelve months or in the fall, when an active campaign will be started to get all sections of the state interested in this society, and an endeavor will be made to get such legislation as will prevent blindness in this state. New York is the headquarters for the National Association for the Prevention of Blindness and the Conservation of Vision; and the Russell Sage Foundation for the Prevention of Blindness. This society will probably cooperate with these societies in New York. All births should be reported within a reasonable time. Where any irritation of the conjunctiva is present it should be compulsory to report such cases within twelve hours after birth. Physicians should be compelled to make such a report as well as midwives. In Boston there is a law which requires midwives to report any case of inflammation of the eye. This law was more or less a dead letter, until several cases of blindness appeared as the result of ophthalmia neonatorum. The guilty parties who failed to report were prosecuted and wide publication given to the fact in the daily press. During the next month there were reported twice as many cases of ophthalmia neonatorum as had been reported before. For instance, instead of ten cases being reported in a month, there were 120 cases reported before many months had gone by.

THE HEALTH-CONSCIENCE AND THE DRINK PROBLEM *

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For the very apt expression, "health-conscience," we are indebted to that well-known Scottish physician, Dr. T. S. Cloudsley. In this presence a definition of Dr. Cloudsley's significant utterance would, I am sure, be superfluous.

I am old enough to have been engaged in the practice of medicine in Illinois when to all intents and purposes there was in my native state no such thing as a health-conscience. To substantiate the foregoing allow me very briefly to recount some experience I passed through in an epidemic of diphtheria that occurred at Tolono, Ill., in 1874, where I was then located. And here let it be said that at that date, outside of Chicago, boards of health, both local and general, were wholly unknown in the state, and furthermore, the discovery of diphtheria antitoxin was fifteen years in the future.

The Tolono epidemic occurred in the late summer and early fall months and not long after its inception I was called to see a little girl who was in the first stage of the disease and was one of five children, ranging in age from 5 to 15 years. More attractive children I had never seen. They all had fair skin, bright blue eyes, sunny hair and the most agreeable countenances. Naturally I was greatly interested and resolved to make an effort to prevent the rest of the children from contracting the disease. There were two up-stairs rooms in the house and in one of these I proposed to put the patient and meantime keep the remaining children downstairs and out of doors as much as possible. But to my well-meant plans the father, an Irishman, made strenuous objection and I shall never forget his countenance as he said, "No, dother, we'll jist let 'um all doi together." Sad to say it was not long till three of these beautiful children were dead and lying side by side in the cemetery. I now know that could I have only carried out my plans the disease in that family would not have extended beyond the initial case.

My sad experience in this Irish home was not only duplicated more than once during that epidemic, in my own practice, but likewise in that of my colleague's as well; for all suggestion of quarantine fell on deaf ears as also did our protests at the holding of public funerals. Indeed, all we got for our pains in the last instance was the accusation of being hard hearted and lacking in sympathy for the dead.

What was true of diphtheria in Tolono in 1874 was true of diphtheria elsewhere, and likewise of scarlet fever, of typhoid and indeed, of all contagious diseases throughout the length and breadth of the great commonwealth of Illinois. Why? First and foremost because there was an utter lack of health-conscience. And, because there was no health-conscience, there were no health laws, no health officers, no health boards. But fortunately for suffering humanity the morning of a much better and

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

brighter day was near at hand and came in 1877, when the first medical practice act was spread on the Illinois statute books, the first state board of health organized and its first secretary, Dr. John H. Rauch, began his work at disease prevention which with the lapse of time became more and more effective. Coincidentally, the public health-conscience was quickened, aroused and became a tangible reality. So tangible in fact that were I called on to frame an epitaph for Dr. Rauch I would write, "builder of the first Illinois public health-conscience."

But among the infectious diseases on which Dr. Rauch made war in the pioneer days of the Illinois State Board of Health, tuberculosis had no place whatever. Do I hear some younger member of the profession ask why this neglect? If so I would answer that when Dr. Rauch did his earlier work the profession was as much in the dark regarding the true etiology of tuberculosis as it was in the time of Hippocrates, nearly 2,500 years ago. But fortunately again for suffering humanity, the dawn of another bright day was not far off and came in 1882 when Dr. Koch discovered the tubercle bacillus and demonstrated the true nature of tuberculosis.

In the light of this discovery, the profession in due time came to realize the enormous prevalence of tuberculosis and the imminent danger of the constant increase of this prevalence. Meanwhile the more progressive members of the profession began to devise means for the cure and curtailment of the disease, and coincidentally some of the laity became interested and gave their cooperation. And so the good work has gone on, and what are the conditions to-day?

In answer I would say that not only has the spread of tuberculosis been materially lessened, but the public health-conscience has been so aroused that among the agencies at work may be named the church, which regularly sets aside certain Sundays for detailing the dangers of the disease and the suggestion of means for its prevention and cure. Meanwhile the papers, magazines and public prints of all kinds fairly teem with articles describing the inroads of the malady, pointing out its danger signals and suggesting ways and methods for avoiding the disease. Thus has it come about that in all that pertains to tuberculosis, it may be said that "he who runs may read."

We have in this country another serious disease, concerning which there is urgent need that the public health-conscience should be aroused. That disease is alcoholism. Does someone express surprise at this allegation? If so I will say that when one contemplates the great amount of sickness, the perverted nature, disordered mentality, pitiful poverty, horrid criminality and appalling aggregate of human suffering all chargeable to alcoholism, that disease assumes an even graver aspect than that other terrible malady, tuberculosis. Indeed, of tuberculosis, alcoholism is a fruitful cause.

In his article in the *Twentieth Century Practice* Dr. Adolphus Knopf says: "That alcoholism is one of the greatest direct and indirect causes that prepare the field for tubercle bacilli is now generally conceded, not only by all physicians and sanitarians, but by all sociologists who have

studied the subject. It is not only a phthisiogenetic disease in life, but according to statistics carefully kept in European hospitals for children, in more than 50 per cent. of cases either father or mother, or both, were alcoholics."

Said the eminent late Dr. Brouardel of France: "Alcohol is in effect one of the most powerful factors in the production of tuberculosis."

Bernheim said: "The abuse of alcohol favors the breaking out of tuberculosis . . . and in France tuberculosis increases in a parallel ratio with alcoholism."

Speaking of the relation of alcoholism to tuberculosis, Dr. William H. Welch of Johns Hopkins said: "The lowered resistance (of the inebriate) is manifested by increased liability to contract the disease and the greater severity of the disease." It is estimated that about 140,000 deaths occur every year in the United States from tuberculosis. If we allow one in five of these to have had its inception in drink, directly or indirectly, we get 28,000 cases of tuberculosis as the result of alcoholism.

In this connection it is proper to say that Metchnikoff demonstrated that alcohol paralyzes the leukocytes and renders them relatively incapable of withstanding disease invasion.

Rubin made leukocyte counts in sixty inebriates and found the average number of white corpuscles to be 53,000 per cubic millimeter. At the same hour and under like conditions a count was made on sixty normal individuals and this yielded 75,000 leukocytes per cubic millimeter. Accordingly it would seem that when compared with a normal individual the inebriate suffers a loss of 33 per cent. in his disease resistance.

Dr. Charles E. Stewart in a series of experiments found that the much advertised peruna, in a dose of 2 ounces, four hours after administration, reduced the opsonic index from 0.98 to 0.21.

Insanity is another terrible disease that in no small number of cases finds its etiology in alcoholism. And one of the world's leading alienists, Professor von Kraepelin, says that one-third of all the insane cases seen in Munich are the result of drink.

Dr. Clouston, superintendent of the Royal Asylum, Edinburgh, says that 42 per cent. of the patients under his care owe their condition to alcoholism.

Said Dr. Theodore B. Hyslop, an eminent English authority: "My own experience leads me to believe that alcohol is a direct, or indirect factor in the causation of at least 50 per cent. of the cases of insanity."

Magnan, a French alienist, says that of all insane patients received in the great public Asylum of Saint Aine during the year 1900 more than 31 per cent. were simple alcoholics and 19 per cent. were insane alcoholics, making a total of more than 51 per cent. of primary cases of insanity from drink.

But the truth is a drunk man is really insane. Said Dr. Alexander of Philadelphia: "No one who drinks to excess should be considered sane and responsible. Intoxication literally is insanity and irresponsibility and will be so considered in the future."

Bebee says the inebriate is insane and should be prevented from contracting marriage and propagating degenerates.

It is estimated that there are about 160,000 insane in this country to-day and on the very conservative estimate that but one in four reached his unfortunate condition through drink, direct or indirect, we have a total of 40,000 cases of insanity from alcoholism.

Those who have given the matter study are convinced that in the production of criminals drunkenness has more to do than any other one thing. Said a police magistrate in one of our large cities: "Find an antidote for intoxication and most of the work of the police courts would be abolished."

The Lord Chief Justice of England declared that after forty years at the bar and ten years on the bench he had no hesitancy in saying that 90 per cent. of crime in England had drink for an important factor.

Another judge of large experience declared that there is not one case in twenty where a man is tried for murder that alcohol is not the direct or indirect cause of the crime.

Drew reports that of 154 criminals admitted to the Massachusetts Insane Asylum ninety-six, or 62 per cent., were hard drinkers.

There are said to be 250,000 criminals in this country. Let us be conservative and allow that only half of these came to their unfortunate condition through the use of intoxicants and this will give us 125,000 outlaws as the result of drunkenness.

Epilepsy is another disease that finds in drink a most important factor in its etiology. Conservative estimates refer every fifth case of epilepsy to alcoholism, either in the victim or in his ancestry. There are said to be in the United States no less than 175,000 sufferers from this disease, and on the basis above given we get 35,000 epileptics who owe their condition to drink.

Those who have made a study of the subject believe that fully one-half the syphilitic infections in this enlightened land of ours are due to intoxicants. And how many prostitutes owe their unfortunate condition to drink the world will never know, as a glass of wine and a heartless companion have, without question, been the ruin of thousands of innocent girls who ever after led lives of shame.

Some more of the products of drink are poverty, pauperism and vagrancy. Said Judge Sanford M. Green of the Michigan Supreme Court: "Intemperance is the parent of pauperism."

Dr. A. G. Lawrence is authority for the statement that of 2,598 inmates at one time in the New York City Almshouse no less than 90 per cent. were there on account of drunkenness.

Dr. Charles S. Hoyt, some years ago secretary of the New York State Board of Charities, says that at one period there were in round numbers 12,000 inmates in the New York Poor House, and of these, 84 per cent. of the males and 42 per cent. of the females were alcoholics.

From those who have given the subject attention we learn that there are in this country 4,000,000 paupers and vagrants. That we may be absolutely safe let us cut these figures in two and say that there are but 2,000,000. Let us again be moderate and allow that only half these lost out in the battle of life through drink, and on this conservative basis we

get in this, the most prosperous country in the world, 1,000,000 human beings who are paupers on account of drunkenness.

But beside producing poverty, pauperism and vagrancy, drunkenness destroys the home. Indeed, to this cause is attributed the destruction of 150,000 homes in the United States each year.

By reason of drunkenness it is believed that to-day there are in this country no less than 1,000,000 shipwrecked lives, human derelicts so to speak, floating here and yonder on the sea of life. Further details are not necessary. You all know them. Indeed, you all have them in your villages, in your towns, in your cities; for wherever are your homes these drunken wrecks, like the poor, you have always with you.

It is well known that alcoholics are poor subjects to recover from wounds, injuries and operations. Said Sir Frederic Treves, the great English surgeon: "Having spent the greater part of my life in operating, I can assure you that the person of all others that I dread to see enter the operating theater is the drinker."

The abstainer invariably has more endurance than the drinker, and no class of men are more alive to this fact than athletes and those training for the prize-ring. Under this head I may be excused for again quoting from Sir Frederic Treves, who was the medical officer in charge of the 30,000 English troops who in very hot weather made a forced march to Ladysmith that was besieged by the enemy during the Boer War. Referring to the soldiers who made this forced march, Sir Frederic said in substance: "Those who gave out and fell by the wayside were not the short men nor the tall men, not the fat men nor the lean men, but the *drinking* men, and the *drinking* men just as surely as if they had been labeled on their backs."

Let us now turn our attention for a moment to the mortality from alcoholism. The late Dr. Benjamin Ward Richardson, an eminent English physician and philanthropist, estimated the deaths in England from drink to be not less than 10 per cent. of those from all causes.

Dr. Willard Parker, a leading New York surgeon a generation ago, estimated that 33 per cent. of the Empire City's total death roll was directly or indirectly due to drunkenness. In this country and in most others it is next to impossible under existing circumstances to get the real facts pertaining to alcoholic mortality. The reason is obvious. Desirous of sparing the friends of the one who came to his death, directly or indirectly, by the use of too much drink, the physician in designating the cause of a fatal termination, more often than otherwise fails to "tell the truth, the whole truth and nothing but the truth." For illustration, one of his patrons dies of what is plainly alcoholic cirrhosis of the liver, and a death certificate is made out that a thousand to one has left out that most important word *alcoholic*. Indeed, the physician may even go further and assign a simple inflammation of the liver as the cause of death. Again, another patron who his physician knows is an alcoholic takes pneumonia and dies because of his habits, and when the death certificate is made out the contributing cause is left out, or some other than the true one, namely, *alcoholism*, substituted.

Fortunately for our purpose there is one country that requires and gets the *true* cause of death from the physician. That country is Switzerland. And Switzerland's mortality lists show drunkenness to cause more than 10 per cent. of the total deaths.

In the United States there are about 1,500,000 deaths each year from all causes, and if we allow 10 per cent. of these to be of alcoholic origin, we get annually 150,000 dead from drunkenness. Let us now get some of our figures together: We have seen that each year drink is the exciting cause of 28,000 fatal cases of tuberculosis and the destroyer of 150,000 homes; the cause of 40,000 cases of insanity and of 35,000 epileptics; the chief factor in the production of 125,000 criminals; the direct cause of 1,000,000 shipwrecked lives; the direct or indirect producer of 1,000,000 paupers; the chief contributing cause of thousands of cases of syphilis; the seducer of an untold number of young women, and the most important factor in producing and promoting prostitution. And finally drink each year adds to our mortality lists 150,000 lives. And most of these 150,000 dead from alcohol are males and very many of them men in or near mature manhood.

One hundred and fifty thousand dead each year from drunkenness! Do we realize what that means? Fifty years ago this country was in the throes of the greatest civil war of modern times, and during its four years' continuance the world stood aghast at the awful sacrifice of human life that was incurred. And yet the average yearly death-loss in both the Union and Confederate Armies from disease and in battle was less than in our day occurs in this country each year from drink.

A little less than 100 years ago on the field of Waterloo was fought one of the greatest battles in the world's history. One of the results of this battle was the overthrow of Napoleon, his banishment to St. Helena and the settlement of the future of Europe for a century or two. But notwithstanding the mighty issues at stake at Waterloo the total number of soldiers who contended on that renowned battlefield did not exceed the number of human lives exacted each year in this country by alcoholism.

Is it not time, fellow practitioners, that we were giving heed to this important subject, the drink problem? Not as fanatics. Not as visionary theorists. But as practical men learned in the theory, and skilled in the art of one of the noblest of callings, shall we not by word, deed and example show our interest in this momentous question?

We pride ourselves on being members of a profession whose chief purpose is the relief of suffering and the cure and prevention of disease. And in these latter days we are all in a sense sanitarians and as such are prone to push the good work of disease-prevention. But in this most commendable effort are we at all times and in all things consistent? If so why do we quarantine scarlet fever and seek to check the spread of typhoid, diseases that claim their victims in this country only in thousands, while alcoholism, that meantime slays its hundreds of thousands, is left comparatively free and untrammelled to work its ruin and havoc.

Why do we make unceasing war on tuberculosis that harms only the body, while drink is left free to not only prey on man's body, but likewise on his home, his family, his property, his mind, his character, his all?

Surely the wise man of 3,000 years ago was not far wrong when he said: "Wine is a mocker, strong drink is raging, and whoever is deceived thereby is not wise." "At the last it biteth like a serpent and stingeth like an adder."

DISCUSSION

Dr. Frank P. Norbury: Medical men as a rule are not sociologists, nor are they economists, nor do they go very far beyond the circumscribed provincial opinions of their respective bailiwicks, when the discussion of alcoholism is an issue. Somehow, even the skilled clinicians, especially those who see the end-results of alcoholism almost daily in their practice, have a tolerance for its existence, which to say the least, is not in keeping with their mental attitudes toward other conditions which affect public health.

The average physician who makes an appeal to health conscience, such as made by Dr. Johnson, is regarded as an alarmist, a fanatic, or a bigoted Philistine, seeking notoriety rather than good. He is a joke in the average medical audience, tolerated, but with reservations which if publicly expressed would not sound well, and if to appear in print would need a censor to make them acceptable "copy."

I know this to be a fact, even with such a man as Kraepelin, the father of the modern psycho-pathologic study of alcoholism, whose students out of deference to his great personality, respect his opinions, but who nevertheless when he is not present, express pity for his (to them) absurd beliefs. Strange it is what a hold tradition has upon us, and how the cock-tail, the high-ball and that which made Milwaukee famous, usurp prerogatives which though primitive in their ape-like practices, are nevertheless harbingers of evil to health conscience.

Social pathology teaches us, whether we want to take cognizance of the fact or not, that alcoholism is a pathologic symptom of our social life. It is part of the socio-pathogenic phenomena which implies biologic deterioration of the race. Dr. Johnson has shown alcoholism as the leading contributory factor in the etiology of tuberculosis, of insanity and of crime; and yet aside from the social and religious movements which have appealed to the moral issues of the question, little has been done to appeal to the health conscience from a purely socio-pathogenic point of view. The human organism as viewed by the biologist, lives on the basis or expense of its reserves. Every individual has a reserve at birth—at least a potential reserve, and how this reserve is conserved, depends on the right living of the individual.

This is a biologic fact to which all organic life subscribes. Organic life is impossible without energy, and energy comes from food. It is not necessary to discuss metabolism, physiologic work, except to say reduction of vital power real or potential follows when nutrition is inhibited or cut off by alcohol. Death or at least retrogression follows in the train of impaired physiologic activity, resulting from the use of alcohol.

In the study of the survival of the fittest, doubtless we surmise, a philosophic surmise that Nature may be working out a great plan of conservation, of natural selection, of survival of the fittest in this great slaughter of the weak, the underfed; this great ruin; this great economic cataclysm which follows in the wake of alcoholism, and that the health conscience may exist in medical men but is sleeping, guided by that great Divinity which shapes the end of man singly and collectively in social masses of people, victims direct and indirect of alcoholism. Perhaps commercialized liquor traffic is a Malthusian blessing—a part of biologic phenomena that seeks conservation and ultimate perfection of species at the tremendous cost price of human life, which considers not prodigality of life; misery and woe of poverty; the sufferings of the individual or his family in the clouds of mental disease, nor shame in the sting of criminality, but ruthlessly

throws out these waste heaps, these sacrificial offerings, who are of the least use to the species for whom the state must care. This law of selection, this beneficent law (?) of which the man who keeps silent is the sponsor, should by the *silent* medical men be applied to the infectious diseases and let us return to the dark ages where tradition held rife, and death and destruction gave Dante inspiration to tell us of the Inferno.

Let me say, however, in closing, that it is the unfit who are being multiplied—a result contrary to the basal principle of selection and equally contrary to the fundamental interests of the species, in this case the human species. As evidence, read the reports of the Registrar General of England; Director and Secretary of the Poor Law Administration of Paris; the reports of the New York State Commission in Lunacy. If time would permit, I could present other evidences, social and economic, showing how this State is every year by an increment of 400 cases, adding to public care of the insane, 38 per cent. of whom are insane through alcoholism. Not a word is being said—the health conscience is asleep as regards alcoholism. Our State Board of Health has not followed the Health Department of Paris in issuing literature warning us of the evils of alcoholism. We have literature on infectious diseases, including pellagra and hook-worm, new things in public health policies, but not a word regarding that which causes nearly one-half the mental disease, two-thirds of all crimes and a powerful factor in the etiology of disease in general. We are a self-satisfied people, somewhat ostrich-like in our simplicity, but if we ever expect to be able to meet problems face to face, we must recognize, as Paris has done, that alcohol as a pathogenic factor in mental disease is as incontestible as a ruling of the Supreme Court. That alcoholism is the greatest enemy of the progress of the races, and the most potent factor in crime, mental disease and poverty.

Should not our health conscience at least wake up and take notice? I think it should.

L. H. Mettler, Chicago: It has been a treat to have heard this paper and in sincere commendation of it I need only say that I wish it could be reprinted and spread broadcast, among the laity. Upon a subject of this sort it is just such papers that do the most good. A mass of facts, not wholly unknown to the profession but little known to the laity, have here been gathered and presented in a most interesting manner. The doctor uses the term "health conscience" in connection with the awakening of the popular mind to the enormous damage done by the social use of alcoholic beverages. Heretofore the whole question has been relegated to the conscience of both the individual and the community and it has been treated as one almost wholly in the realm of morals and ethics. Hence the temperance crusade was largely left to the clergy, the teachers of morality and the ethical reformers. The idea grew that somehow or other the drinking of alcoholics was a sin, as the Bible condemns the taking of strong drink and as the Bible is to the average person preeminently a moral guide, this also strengthened the idea that the drink problem was largely a moral one. All of this is shown further in the fact that drinkers uniformly manifest a certain degree of shame when they indulge in, or speak of the habit. How noticeable is the apologetic little laugh when, among a group of men, some one suggests that they "have a drink." They reveal thus their smitten conscience. They seem to feel that somehow the moral sense of the community is not in perfect accord with their own mode of conviviality, because the moral sense of the community has grown up about the idea that the drinking of alcohol is more or less of a sin.

There are many, however, who have boldly challenged the sinfulness of the act. They ask, why is the taking of alcohol in itself any more heinous than the taking of a glass of milk? The reply is, of course, that it is not. It is the results of taking alcohol, that lend to the drinking habit its sinful character. This at once shifts the point of view in regard to the problem. The moral or ethical view of the question sinks almost out of sight in comparison with the profit and loss view. It is not a question whether it is right or wrong, *per se*, to drink, but whether it *pays*. Until somewhat recently science was not prepared to present any overwhelming data to the effect that drinking is an immensely

unprofitable thing both for the individual and for the community. In the last few decades a vast amount of statistics have been accumulated to show how the individual organism and the body politic are both tremendous losers by the free use of alcoholics. To take one instance: In the State of Illinois we are told that there are about 8,000 epileptics. Half of these are children. Of these 4,000 epileptic children, half or about 2,000 owe their condition directly to the use of alcohol by their ancestors and to nothing else. What a picture it would be, those 2,000 poor, helpless, worthless human derelicts standing together on some platform and, their ignorant or self-indulgent ancestors being in the audience, they pointing to the latter in scorn and saying "Behold! What we are you have made us! Two thousand of us robbed of our birthrights and thrown as a useless burden on an already struggling community. And all for what? In order that a few moments tickling of a little nerve, the taste nerve in the back of the mouth, may be experienced." Surely, if such a custom as the drinking of alcohol is a sin, the sin consists in the monumental stupidity and folly of doing that which leads to so unprofitable and disastrous a result. And yet, as the essayist has well and abundantly shown, the frightful ravages upon society of this miserable drink habit are only in small measure illustrated by the picture that I have just portrayed.

It will be said that the dangers of alcohol are not known by the laity and that it is through ignorance and not indifference that intemperance is allowed to work so much harm. To a great extent this is undoubtedly true. It is by the accumulation of statistics therefore, by the teaching of the dangers of alcohol here, there and everywhere and the showing how unprofitable it all is, that a sentiment will be awakened in the mind of the people, the "health conscience," whereby legislation and other means will be adopted to check the use of alcohol as a beverage. The growing temperance movement and the recent wave of prohibition that swept over the country are evidences of the people learning of the dangers of the drink habit. Not as a moral reform but as a matter of profit and loss is temperance now being taught. In the line of this teaching such papers as we have just listened to are invaluable.

INTESTINAL TOXEMIA*

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There is no question but that the subject of intestinal toxemia is one of rapidly growing importance. Its entity as an etiologic factor in diseases of various forms is being recognized more and more every day.

It is my intention to-day to consider the subject from a clinical standpoint only.

First. Intestinal toxemia, as an etiologic entity.

Second. The general symptomatology of cases resulting from intestinal toxemia.

Third. Treatment.

As yet we are unable to differentiate between the metabolic degenerative and the bacterial forms, but I am not so certain that there is a difference, but that the causative factors are the same in both types.

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

When we are able to positively differentiate them or know definitely that they are the same, then many conditions that are now obscure will be an open page.

1. *Intestinal Toxemia as an Etiologic Factor.*—For some time I have been doing work for men in lines other than my own, and I am astonished at the results obtained in these cases and with no other treatment than that directed toward the intestinal tract. The two conditions in which the most good was accomplished were those cases suffering from headache and those in which the neurasthenic symptoms predominated. I have found that about 95 per cent. of all cases of temporal headaches are of intestinal origin, and all are amenable to treatment if the headaches are forgotten and the alimentary tract handled properly.

Many of the so-called hysterical and neurasthenic patients who have been laughed at and doped with sedatives make a prompt recovery when treated rationally through the bowel. I desire to call attention to a number of other conditions that can be traced directly to toxic disturbances in the intestines, namely:

Neuralgias of the fifth nerve which have resisted all other forms of treatment. Recently I have treated two cases of facial neuralgia, one of which was prepared to undergo an operation on the ganglion in order to obtain relief. In two weeks he was well and no return in months from a persistent condition which had lasted for about three years uninterruptedly. The second case was not so severe, but yielded readily to treatment.

I have had three cases of intercostal neuralgia and two of sciatica, all of long duration, in which a decided result was obtained.

Acne and eczema are both traceable to this fountain head of diseases. I have treated several cases of stubborn chronic eczema with good results in a few weeks and no return in months after. The ordinary treatment for this condition had failed.

If in a case of urticaria we look to the intestinal tract, why not in eczema and acne?

Within the last few months I have, in several cases of atonic dilatation of the stomach, used no local treatment whatever for the stomach, and much to my surprise found that under treatment of the bowel all the gastric symptoms have disappeared.

I have seen some cases of asthma improve following the removal of the intestinal toxemia. There is no doubt but that very soon we shall find a direct connection between diseases of the eye and the intestinal canal. Arteriosclerosis will undoubtedly be traced sooner or later directly to this source.

2. *General Symptomatology.*—The most common type giving excellent results which has come under my observation is the neurasthenic. The mental picture of this type is decidedly characteristic. They frequently seek advice on account of some intestinal disturbance. There is extreme nervousness with marked depression and many forms of mental imaginings, varying from a slight disturbance almost to the border-line of insanity. Indeed some might properly be termed insane.

For instance, one case which I had under my care was that of a man who was positive that he would die of tuberculosis. He had consulted eleven other physicians, the first of whom had told him that he had tuberculosis. Up to that time he had only been depressed following an attack of grippe. When I saw him he had been unable to attend to his business for five months and the idea was so deeply rooted it seemed almost impossible to eradicate it, yet in two weeks this man was able to go to the office for an hour or two daily and in four weeks was active the entire day, and at present is controlling one of the large wholesale establishments in Chicago, and all that was done was to relieve the intestinal toxemia.

The intestinal trouble is generally constipation, occasionally diarrhea or diarrhea alternating with constipation. The depression is just as marked when diarrhea is present as when constipation is present.

Headaches, especially temporal, are very frequent accompaniments. Insomnia is often very annoying. There is restlessness and inability to concentrate the mind. Belching, bloating and pyrosis are present in most cases. Flatulence is excessive in most cases and is often increased after treatment had begun. The patient complains of nausea and occasionally of vomiting.

Difficulty in deglutition is another type. I recently dismissed a patient who for months was treated by a throat specialist without results. After satisfying myself that no mechanical obstruction existed, and taking into consideration her extreme neurotic condition, I directed my attention to the bowel with the result above stated.

The appetite varies. In some cases it remains unimpaired, in others it is poor, while still others are capricious, ravenous at times, preceding headaches occasionally and disappearing entirely at others.

Drowsiness is present in almost every case, as is also dizziness. Ringing in the ears with vertigo simulating Ménière's disease is not at all uncommon.

Cardiovascular sluggishness manifests itself in cold hands and cold feet. I have a patient at the present time whose hands perspire profusely under the least excitement.

A weakened muscular tone is generally found. It ranges from a slight weakness to an actual pain, especially of the leg muscles on walking.

The rheumatic or gouty pains in the muscles and joints give these patients much inconvenience, one of the common seats of trouble being directly over the sciatic notch. Lumbago is not at all uncommon.

In women menstrual disturbances appear in many cases. Loss of weight varying from a few pounds up to 15 to 20 or even 30 or 35 pounds is not uncommon. I have two patients at the present time, one of whom lost 30 and the other about 33 pounds in the last few months.

Pyorrhea is undoubtedly the result of faulty metabolism and toxemia. Dr. Skinner, a dentist of Chicago, informs me that Dr. Black, also a dentist, claims that by improper feeding or overeating he is able to produce lime salt formation on the teeth in from six to twelve hours, or that he can keep it off indefinitely by proper mastication and diet.

We all recognize the fact that an individual suffering from auto-intoxication has a markedly lowered vitality, the bodily resistance not being sufficient to withstand the attack made by organisms against it. For years we have been treating this condition unconsciously, for practically no matter what the condition, the first thing a physician does after being consulted by a patient is to cleanse the alimentary tract and thus aid in relieving the body of the offending material.

Chemical analysis of the stomach contents shows anything from an anacidity to a hyperchlorhydria.

The analysis of the urine is of the utmost importance and it is in this way that the best observations can be obtained on the patient.

3. Treatment.—The treatment of these various conditions is simple. I make no attempt to treat the condition symptomatically, but begin by treating the alimentary tract, paying particular attention to the diet and the mechanical treatment. Medicines are of little permanent value, but procure rapid temporary relief during the time the patient is undergoing the mechanical and dietetic treatment. As soon as the urinalysis is completed and the total amount of the urea, phosphates, chlorids, sulphates and ammonia has been determined, I begin by cleansing the bowel with a mixture perhaps of sodium phosphate and sodium sulphate and sodium bicarbonate, sometimes adding a little sodium salicylate and again menthol. I vary this combination occasionally by adding a small amount of magnesium sulphate. The phosphate, sulphate and bicarbonate of sodium are given in about 10-grain doses each three times daily in hot or cold water after each meal. This acts in most cases as a very mild laxative and is used in diarrheal condition as well as in constipation, and with most astounding results. The salicylates are useful in cases when there is a tendency to rheumatism or gout or when much belching or bloating is present.

For the nervousness I use in most cases a combination of a saturated solution of sodium bromid and chloral hydrate or one-quarter-grain doses of *ex. cannabis indica*. Fowler's solution is a very useful agent where there is any thyroid disturbance. As tonics I use *tr. nux*, *tr. gentian co.* and *tr. cinchona co.* before meals if indicated.

Diet.—The diet is really the most important part of the treatment. As we all know the greatest amount of putrefaction comes from a proteid diet and if there is an excess of indican and ammonia, showing a large proteid intake, I immediately transfer my patient to a carbohydrate and fruit diet by eliminating from the diet list all meats, fish, eggs, milk, cheese and the like for a short time. The proteid intake is watched by an urinalysis every few days.

Where formerly I thought it impossible to put a hyperchlorhydria patient on a fruit and vegetable diet I do so now with impunity and have no unpleasant results whatever. At first the patient finds some difficulty with this diet, but soon becomes accustomed to it and nearly always ends by commending it.

Mechanically I depend principally on colonic flushing. Not the ordinary large enema, but an injection, which I give myself, depending

more on the temperature of the water than anything else, the temperature ranging from 112 to 130 F. A small quantity of water medicated as desired is put into the bowel through an ordinary soft rubber rectal tube. As soon as the patient complains of a feeling of fulness the water is siphoned out through the same tube and the bowel again filled, then siphoned again. This is continued until from 1 to 3 gallons of water is allowed to pass through the bowel. In case of any ulceration a mild solution of argyrol may be given as an ordinary enema. These flushings may be given daily or on alternate days, as the case demands.

Muscular exercises and manual or vibratory massage are excellent adjuncts in treatment. The ordinary case takes from four to eight or ten weeks to establish a cure.

This field covers such a wide range, that as you notice I have made no attempt whatever to discuss the origin of the toxic condition, but will say in closing that I am of the opinion that the colon bacillus is the important factor.

The subject is so large, so complex, that I have, so to speak, just touched the outer edge. The results obtained in cases which a few years ago would have been considered incurable are so satisfactory as to almost verge on the marvelous.

DISCUSSION

Dr. E. J. Brown, Decatur: This is a very interesting subject. About 60 per cent. of the cases which come to the general practitioner are gastro-intestinal. They show some toxic condition.

One point in regard to these cases which the author did not mention is the effect of displacements of the abdominal organs—the various ptoses—on intestinal intoxications. It is a well-known fact, and it is being recognized by gastrologists, that too much attention has been paid to the chemical analyses of the stomach contents, and not enough to the physical examination. It is well known also that a great many cases of hyperchlorhydria and achylia gastrica and gastric ulcer exist with displacement of the organs. This condition is known by various names. It is also well known that if any one reads a paper now on movable kidney without considering the displacement of other organs, such a paper would be incomplete. If you have a movable kidney, you can make a positive diagnosis of gastropptosis, more or less, or enteropptosis, or general splanchnopptosis. If you study the physical diagnosis of diseases of the stomach by means of outlining this organ by percussion and auscultatory percussion also, if necessary, by various media finding the lower border of the stomach, you will find displacement of the lesser curvature. This can be done in various ways, but if one would make a diagnosis of displacement of the stomach, it is very essential to have the patient in an upright position, and by giving four or five glasses of water consecutively, and then percussing the dull area after each glass of water, you will easily find displacement. Examination for the different splashing sounds is almost of as much importance in the diagnosis of diseases of the stomach as is the examination of the chemical contents. This splashing sound may be made on the abdomen with the knees drawn up; it may be 1 or 2 inches below the umbilicus. If you treat these patients for intestinal toxemia or for gastric symptoms alone you do not get results. They need some form of support. The operation for floating kidney is being done away with. Very few surgeons, as I understand it, are operating now for fixation of the kidney. The improvement you get is not by treating the kidney, but by treating the atonia gastrica; the best treatment of these conditions is by means of Rose's adhesive belt. I recall a case of ulcer of the stomach treated quite recently in which the treatment was preceded by severe hemorrhages, and only

after four weeks' treatment in bed, with rectal feeding for the first ten days, did all the symptoms disappear. The patient got up, but had a sort of toxic condition of the intestines, as was shown by an immense amount of flatulence. I applied a Rose belt, which relieved this. This treatment will relieve a great many cases of hyperchlorhydria. In treating cases of hyperchlorhydria, it is well to look for gastropexia, and you will be surprised how the pains in the dorsal region of the back will disappear under an abdominal support.

In regard to the treatment by means of diet, that is very important. I make it a point to tell my patients to eat no meat whatever. I allow milk and eggs, but I believe, above all things, a vegetable diet, except in these cases of pronounced hyperchlorhydria, where a carbohydrate diet does harm, is preferable.

Dr. Mack (closing the discussion): I have nothing further to say, with the exception that I found the condition frequently in cases of atonic dilatation. So far as diet in cases of hyperchlorhydria is concerned, I find that I can use any carbohydrate diet just as well as I can a proteid diet, and with equally good results and without any distress to these patients.

GENERAL ANESTHESIA: SOME METHODS NOW IN USE *

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The horror which people manifest when anesthesia is suggested to them, suggested this paper. Is it ignorance and fear on the part of the public, or is it lack of confidence in giving the anesthesia on the part of the physician, which causes this abhorrence? I believe it is both. I was greatly handicapped in a fracture of the epicondyle in a child, where an anesthetic, to diagnose properly, was clearly indicated, but where the father bluntly refused, stating that what he objected to take himself, he would not have his child take. I have had similar trouble in other fractures.

The indications for giving it are generally clear, but the aversion of the public to having it administered and that of the physician to administer it or call someone capable is often the cause for its omission.

I have given anesthesia over a period of more than four years, both in this country and in Berlin, and had no fatalities or injuries occur as the result of giving it. A good many people are called on to give the anesthetic who are incompetent. One reason is, the surgeon considers this act a minor function, which he is able to supervise while performing his own and which really needs all of his attention. Another reason is, the surgeon thinks himself all important, considers the administrator of ether, who has the life of his patient in his hands every minute, only worth five dollars, and the patient having the same impression, an unschooled hand is usually called in. I have heard of an advertising alumnus who does rectal work have his colored uniformed janitor give it.

Statistics on fatalities are hard to obtain and are unreliable. Sonntag reports more than twenty cases of pneumonia caused by ether or chloro-

* Read at the Annual Meeting of the Crawford County Medical Society, Robinson, Ill., July 13, 1911.

form narcosis occurring in the Erlanger Frauen Klinik from 1887 to 1894, in 338 laparatomies. In 300 cases chloroform was used, and in thirty-eight, ether. After the employment of chloroform there were fifteen cases of pneumonia, four of which were fatal, or 20 per cent. After ether six cases with four deaths, 66 per cent.

McCown and Fountaine state that Leonhard Guthrie, in 1894, was the first to call attention to cases of delayed chloroform poisoning. In that year he reported nine cases in which death occurred within from ten hours to six days after operations were performed. The symptoms observed by Guthrie were, after a period of twelve hours or so, profuse vomiting, the vomit eventually blood stained and resembling the dregs of beef tea; restlessness, excitement and delirium alternating with apathy, jaundice and unconsciousness deepening into coma.

Wood, who quotes the statistics of ether and chloroform of Coates, Gould, Garree, Gurlt and others, covering several million cases, gives a mortality from chloroform of about 1 in 15,000 cases. Perhaps there are more deaths than are reported, since there is no law to compel assigning the anesthetic as cause. In *The Journal A. M. A.* I note the following: In a previous letter an account was given of the report of a committee appointed by the government to inquire into coroners' inquests. This committee has now issued a further report on deaths under anesthesia. The perils of anesthesia have attracted attention because of the great increase in the number of deaths under it in recent years. In 1866 the number of deaths registered as occurring in this manner was 5; in 1905 it was 55; in 1908, 235.

I have given chloroform three times in succession at intervals of four days without ill result. McCown and Fountaine report a case of death from yellow atrophy of the liver in a woman, where chloroform was given on two consecutive days.

Diminishing of the amount of chloroform or ether by drugs such as morphin and atropin or hyoscin and using the same as a routine measure is strongly condemned. The depression following, added to that of the anesthetic, is too profound to be safe, and in the few instances where I have given it, I have had unpleasant results. When heart affections are present neither chloroform nor ether are safe, and morphin is often used by surgeons to overcome that defect, no doubt with serious results in many instances, and deaths have been reported by competent anesthetizers. The narcosis where morphin is given becomes too profound, even with a careful anesthetist, and before he realizes it the overdose has been given. It masks the most valuable symptom, namely, pupillary reaction, and the vomiting, which has occurred in my patients, was not less embarrassing; but the greatest harm is done by paralyzing all reflex centers; the secretions collect in the trachea and breathing ceases.

Scopolamin and Morphin as a Preliminary to Anesthetics.—Collins reports that he uses a combination of 1/100 grain of scopolamin and 1/6 grain of morphin as a preliminary; he states that some of the things expressed are erroneous, which his experience seems to prove. Much of

the misinformation has come from the failure to differentiate the use of the combinations as a general anesthetic, in which the dose is generally small. His report is based on 1,120 cases.

Rückert usually gives, the evening before the operation, 0.5 gm. veronal, one hour before the operation an intramuscular injection of 0.0004 gm. of scopolamin, and a half hour later 0.0002 gm. of the same with 0.01 gm. morphin, followed with chloroform or ether. He reports the experience with 114 patients anesthetized in this way, however, not having used the same dose in all cases. His verdict is favorable; in two cases there was some anxiety; both were uterine cancer cases, and in the first the patient ceased breathing, although the heart kept beating regularly. Not until forty-five minutes of artificial respiration and stimulants was respiration restored. In the second case there was violent delirium for an hour after the patient roused from the anesthesia. There was no asphyxia in any case; the respiration was regular and shallow; the pulse frequently irregular and often slight cyanosis. The euphoria on rousing was striking. There was no vomiting afterwards in seven cases, and only slight vomiting in thirteen. The pain and restlessness increased regularly towards night so that another injection of morphin was necessary. Although I do not consider the result warranting the procedure, in the following it is less so.

Rinne's experience confirmed the advantages of this method of preparing the patient for an operation until two fatalities within three days warned him of its dangers. The cardiovascular system in these fatal cases was below par, and henceforth he will use a smaller dosage in such cases.

Debet and Dupont with 120 patients gave a dose of scopolamin as a preliminary to chloroform. The list includes two fatalities and one post-operative syncope, besides a number of other mishaps. They refer also to Flatau's one fatality in thirty cases, Ziffler's three in sixty-four and Blo's several serious mishaps and one death in 105 cases. They declare that it not entirely does away with vomiting and that it is unquestionably toxic for patients with emunctories out of order.

General Anesthesia with Part Circulation Cut Off.—Berri reports sixty-three cases in which an Esmarch bandage was applied to the legs, arms or both to exclude these members from the general circulation. The amount of chloroform necessary for major operations thereafter was much less than with other technics, thus lessening materially the toxic action of the anesthetic. The first phase of the anesthesia was shortened, the nerve centers feeling the effect of the anesthesia remarkably early, and the patient rousing afterwards much quicker. No by-effects were observed. In one case there was paralysis of one limb afterward, but the one to which the constriction had not been applied.

Klapp, who is assistant at Bier's clinic, Berlin, declares from his experience with the application of constricting bands high on the thighs that time is proving the value of this method of damming off part of the circulation. Far less of the anesthetic is required. He first applies a constricting band to collect a certain amount of blood in the legs and

over this he applies a tourniquet to shut off the blood effectually as with an Esmarch bandage. He orders the patient to breathe deeply and tranquilly; the room should be perfectly still. Then from 10 to 20 c.c. of ether is given all at once, which is enough for fifteen minutes' anesthesia. For longer operations he gives 20 to 30 c.c. at once and then 10 c.c., continuing with the drop method.

Franke has applied the Esmarch bandage to the thighs or arms or both as a preliminary to chloroform anesthesia according to Klapp's suggestion, and has been impressed with the advantage of thus shutting off the blood in these regions from the influence of the anesthetic, the anesthetic used being much smaller in amount. The method cannot be used in varicose veins or eczema, joint or bone affections; it will evidently have to be restricted to healthy and vigorous limbs. The salutary features were the patient's passing under easily, the early rousing and no vomiting following. A slight transient nervous disturbance was observed in one case in which the band had been left in place for two hours on both legs, and Gräfenberg has recently reported thrombosis in six out of seventy-five cases in which the Klapp method was used. The disturbances prove slight and transient, but they warn that vessels distended with blood are more liable to injury than where the Esmarch bandage is applied to a bloodless limb.

Donati reports the Klapp method in seven cases in general chloroform anesthesia. Thrombophlebitis developed in three cases, while he witnessed nothing of the kind in his cases under ordinary technic. This experience he says confirms that of Gräfenberg in which six out of seventy-five cases developed thrombosis, but only one in a series of seventy-five with ordinary technic. He also states with part of the circulation shut off the tendency to vomiting seemed lessened, yet this advantage was counter-balanced by the sense of weight and tingling in the legs the first few days after the operation.

Intravenous General Anesthesia.—Giani reports from Durant's clinic at Rome two cases in which a large angiosarcoma of the lip or a benign tumor in the hypophysis was removed under chloroform administered in salt solution saturated with it. Injection was made into the saphenous vein about 4.5 cm. from its junction with the femoral. About 55 c.c. were allowed to flow into the vein the first minute; 1,000 c.c. were used in all in the first case, representing 6.6 gm. The anesthetic lasted forty minutes; seven minutes after cessation of the infusion the patient roused. Traces of albumin were found in the urine during the first day, but it was normal again the next morning. This albumin was not attributed to the method, but to the condition of the patient. There was no tendency to vomiting in either case. The relaxation was complete by the fifth minute, and by the fourth in the second case. In the latter 1,500 c.c. fluid, with 9 gm. of chloroform, was used, during the seventy-five minutes required for the operation, the patient rousing in five minutes. When the anesthesia was complete the infusion was suspended until the cornea warned that more chloroform was required. He was

favorably impressed with the method, its harmlessness and advantage of technic for head and throat operations.

Ritter injected cocain into a vein, producing complete anesthesia. He made experiments on dogs and noticed disagreeable by-effects in only a few; none died.

Burkhardt is convinced that there is no necessity for the anesthetic to travel through the organs to the blood, and the best results will be obtained introducing the drug directly into the circulation. In thirty-three clinical cases he injected a 5 per cent. solution of ether like a saline infusion, the amount ranging from 200 to 800 c.c. There were no disturbances in breathing, no cyanosis, vomiting or retching in thirty cases; three of his cases had nausea or vomited twice. In another series of eight cases he injected a mixture of ether and chloroform or a 7 per cent. solution of ether; transient hemoglobinurea developed in one of these cases. The patients were tranquil and free from reflex action; the blood pressure did not fall even during long operations. An overdose he states is scarcely to be feared, recovery more rapid and no by-effects. He generally precedes the intravenous infusion with a scopolamin morphin twilight sleep.

Janssen refers to Burkhardt's announcement and states that he has been conducting extensive research in this line, using various anesthetics and technics, but on the death of one dog from embolism in the lung has now entirely abandoned this method.

Pikin relates his experience in fifteen cases with intravenous general anesthesia which were all favorable, but the sixteenth patient died in a few moments after the infusion. Burkhardt's technic was strictly followed, but the method has been abandoned since this mishap.

Terminal Arterial Anesthesia.—The anesthesia employed by Ransohoff is induced by the injection of cocain solution directly into the artery supplying the area to be anesthetized. It is applicable only to a certain group of cases in limited areas of the body. The nature of the anesthetic is terminal—that is, the cocain is carried to the individual nerve endings. The solution is diffused through the capillary walls into the surrounding tissues, and very little if any is returned by the veins to the general circulation. The greatest advantage, he states, is its safety, which depends on the small quantity of the dilute cocain solution used and its probable diffusion into the tissues.

Anesthesia by Colonic Absorption.—The colonic method of administration of ether is more complex than the pulmonary in general and requires from the anesthetist a broader appreciation of the physiologic factors involved. For this reason alone its field of usefulness is limited to cases in which it presents distinct advantages over the pulmonary method. It is therefore not a method adapted to experimental use of the tyro, but rather a valuable addition to the armamentarium of the trained anesthetist. The indications for its use, according to Fulton, are: Operations on or about the respiratory tract, such as lay open the mouth, larynx, pharynx and trachea, when ether absorption must be minimized

on account of lung, heart or kidney lesions. The contraindications are lesions of the alimentary tract.

There are other forms in which anesthesia is obtained, but the evidence in those pointed out undoubtedly shows that even the most successful have trouble with the newer methods, mostly from over-drugging and the attack upon delicate organs; and if I have not succeeded in pointing out the dangers to the patient's life, I have failed in my purpose.

Traumatic Surgery.—In these as in other cases the anesthetic gives the best result which is the most satisfactory in the hands of the anesthetist. In a report of Torrance where the opinions of others were collected, ether, chloroform and nitrous oxygen were applied with modifications, Haggard writes as follows: The advances in the use and perfection of nitrous oxid anesthesia since the report of the anesthesia commission on this subject at the meeting of 1908 seem to consist in the following:

1. The employment of this agent with modification as the routine anesthetic in several of the larger clinics of this country.

2. The demonstration clinically and experimentally of the advantages of nitrous oxid and oxygen over ether in the prevention of shock, the conservation of immunity and its value in the case of the handicapped patient. (Crile.)

3. The establishment of rebreathing of nitrous oxid and oxygen for two or three-minute periods as harmless and beneficial, with the great reduction in cost of this anesthetic. (Gatch.)

Children take chloroform well, and as their heart and lung conditions are good, there is not much danger from that source. However, the reflex centers are quickly blunted and even paralyzed, and there is danger from inhalation. I would be unwilling to give chloroform or ether to a small child for a long period.

The aged take general anesthetics badly and Gleason uses partial scopolamin anesthesia, combined with sterile water infiltration anesthesia in operating on the aged. He says that the aim should be to produce complete sensory paralysis of the part.

The diet before anesthesia is best restricted entirely for at least half a day in a hospital. In private, especially when women are told not to eat for six hours, they eat anyway; and I would allow them a very light meal, not milk, two hours before operation. One woman became asphyxiated through vomiting after eating chocolates during her fasting period and was only revived after hard labor; another slipped to the kitchen just as we were entering the front door and drank a glass of milk; she vomited profusely without any other ill result. Children should be allowed light food in small quantities until an hour before operation.

In giving chloroform ~~or~~ ether I start by gaining the patient's confidence, which is important, telling the patient to fear nothing, calmly go to sleep and breathe deeply. The inhaler is placed well over nose and mouth and at first I shut off as much air as possible with a towel,

which I later remove. The head is placed sideways and a few fingers behind the ramus press the lower jaw forward; this keeps the tongue always against the teeth and I am hardly ever called on to use a tongue forceps. The anesthetic is rapidly given at first and when the patient begins to go under watch the reflexes. Do not touch the cornea, merely draw down lower lids and see how much pupils react, also how resistant the eyelids are. I always keep the patient on the point where pupils slightly react; this is easily accomplished after a little practice, when one can feel his way and know just how much to give. When the patient breathes deep and stertorous there is little danger and he comes through in good shape as a rule; where the respirations are weak, give less and allow more air; the mask may be lifted away for that purpose.

While in Berlin I was frequently giving anesthetics for Dr. Gottschalk, a gynecologist. He started his patients on chloroform, to get the patient under more quickly; there is less choking and struggling, which is valuable, since very often too deep a narcosis is obtained through too deep inhalations. When the patient is well under, ether is given and kept up. I have found this a safe procedure. We always left one arm uncovered for guidance as to pulse, the radial artery being more reliable than the facial. By giving a narcosis no larger than necessary the patient comes out well and there is slight or no vomiting.

MODERN INDICATIONS IN THE TREATMENT OF HEART DISEASE *

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In this brief review it will not be my object to attempt to cover the subject with any degree of thoroughness. I shall try merely to emphasize a few of those points that seem to me of the greatest practical importance.

In no condition is routine treatment more dangerous than in heart disease. Here, if ever, we must treat each case according to its individual needs; we must remember that no two cases are alike and that we are treating not the disease but the patient. Still, certain general principles form the basis of all rational treatment.

HYGIENE

Rest.—The fundamental indication, in all cases of broken compensation, is rest. In acute cardiac disease or in badly broken compensation the most complete rest possible is demanded. The patient is put to bed, allowed to see no visitors and, so far as possible, allowed to make no unnecessary movement. Where compensation is less impaired such strict quiet is not necessary and the value of carefully graduated exercise in the development of compensatory hypertrophy is generally recognized.

* Read before the Medical Society of Pike County, Ill., July 27, 1911.

Nevertheless, of the two, it is safer to err in the direction of quiet. The brilliant results obtained at various health resorts are due, I am convinced, to a great extent, to this factor. Some years ago I had occasion to spend several months at Nauheim, in Germany. Cardiac patients from all over the world flock to these springs, take the carbonated baths under careful medical direction, and usually receive little or no medication. On the whole they do extraordinarily well and leave deeply impressed with the value of the carbonated baths. Now, it is notorious that in general practice these baths, although they can be reproduced in the home with a fair degree of accuracy, produce no such uniformly good results. This has been my experience to such a degree that I have abandoned their use. I am convinced that the good results obtained at Nauheim are due to other factors. The patients having made a long journey, at a considerable expense, are willing to devote their entire attention to getting well. They are separated from family, friends and business, have no distractions or temptations; they rest or exercise, eat and sleep exactly according to the physician's directions. We all know how difficult or impossible it is to secure such obedience at home. The nearer we can approach it, the better will our results be and the more frequently we can dispense with drugs.

Diet.—With a bad heart, it is just as important to reduce the work of digestion to a minimum as to demand muscular quiet. In very bad compensation, the best diet is that originally advocated by Carel for obesity. It consists in the strict limitation of food and drink to one quart of milk a day, a tumblerful being given every three hours. Literally nothing else is allowed to pass the lips. This is, to be sure, a starvation diet and should be kept up not longer than four or five days, but the small demands it makes upon the digestive tract, and secondarily upon the kidneys and heart, aid greatly in the restoration of function of the last organ. Later, when a more generous diet is allowed, it is a mistake to persist too long in the administration of liquid and soft foods; and this for several reasons. These soft and liquid foods, especially if albuminous, cling to the interstices between the teeth and in the folds of mucous membrane, decompose there and lead to the foul mouths with coated tongues that we so often see in these patients. Nothing cleanses the mouth so well as the thorough chewing of a cracker or a piece of toast or stale bread. Moreover, a soft food, such as milk toast, is swallowed with little or no chewing; there is practically no salivary digestion and the work of the stomach is thereby increased. It is usually far better to give the milk and the toast or crackers separately than soaked together. Finally, the work of Pawlow has shown that palatable foods are far more readily digested in the stomach than unpalatable ones. The patient, when he is on the mend, should, if possible, be given the sort of food he likes best, in small meals, carefully prepared and thoroughly chewed.

Sleep.—Above all, the cardiac patient must have sleep. Patients with broken compensation often lie awake night after night, so that as evening approaches they are in an agony of apprehension at the prospect of another sleepless night. No drug, no treatment will be of any avail

unless they sleep. A large number of soporifics is at our command, from the bromids to the latest German synthetic, but often enough nothing will avail but morphin. The latter may sometimes be effectively given in broken doses by the mouth, say one-twentieth grain every two or three hours, but the most certain results are obtained by the hypodermic administration of one-sixth, one-fourth, or even one-half grain at bedtime. The good results obtained from a succession of good nights rival those produced by our most active cardiac tonics. We need have little fear of establishing the morphin habit in these cases. They readily dispense with the drug as soon as they find themselves able to sleep without it and even where it must be continued we need have no fear as it is given only once daily. I have now under observation a patient, a physician, who for nearly three years has taken one-fourth grain hypodermically every evening. It is still fairly effective. Sometimes, however, its sleep-producing power wears off, so that even one-half grain excites rather than soothes the patient. Then indeed we may be at our wit's end to give him sleep. Paraldehyd in tablespoonful doses sometimes acts where all else fails. Such cases, of course, are those hopeless ones of advanced myocardial degeneration in which all we can do is to keep the patient reasonably comfortable.

Exercise.—When the heart with broken compensation is on the road to recovery, carefully graduated exercise is a valuable means for the production of hypertrophy. At first, arm or leg exercises in bed, later, walking on the level or up hill, still later various mild sports; the character of the exercise is of less importance than the amount. At Nauheim a complicated system of so-called resistance exercises has been developed and produces good results, but as it requires a trained attendant, it cannot ordinarily be utilized. Nor is it necessary. The crucial point is that, certainly at first, the patient's exercise should be watched by a companion who stops him as soon as a flushed face, or slightly rapid respiration indicate that he is approaching the danger line. With this proviso any sort of exercise that appeals particularly to the physician or the patient may be used with equal benefit.

DRUGS

It is by no means always easy to determine the therapeutic value of a drug in heart failure. Whoever looks through the literature, whether in the journals or in the text-books on therapeutics must be surprised at the long lists of drugs that have from time to time found favor as cardiac tonics. And yet careful pharmacologic work has shown definitely that none of them are worth serious consideration except digitalis and strophanthus. The reason for this confusion is not far to seek: it is the same confusion that has been so fruitful of error in other departments of therapeutics. We put a patient with heart failure to bed, feed him carefully, see that he sleeps well and that his bowels move satisfactorily and give him, say, strychnin, or spartein, or convallaria. If he does well we are apt to ascribe the improvement to whatever drug we happened to use, without reflecting that the same results

might have been obtained by our hygienic measures, without the use of any medication whatever.

Of these drugs, strychnin is the one that has arrogated to itself the greatest amount of undeserved credit. Until recently a physician's first thought, when facing a sudden attack of heart failure, was a hypodermic of strychnin. For years our surgeons were in the habit of giving strychnin as a routine measure after operations. Of late many of them have discontinued the use of strychnin and I am sure their patients have not suffered. In large doses it seems to increase the tonicity of the heart, as was shown by the animal experiments of Cameron, but in therapeutic doses it has little or no effect. Its use as a routine measure should be abandoned.

Digitalis.—It is far otherwise, I need hardly say, with digitalis. While other cardiac drugs have risen and fallen in the estimation of the profession, digitalis has always remained securely at the head of the list. Of its great variety of preparations, several have peculiar merits that distinguish them from the others, but each has also certain faults that have prevented it from displacing its rivals. It may be worth while here to point out a few of the advantages and disadvantages of some of the more frequently used preparations.

The powdered leaf has always maintained its popularity, especially abroad. It exerts the full digitalis action, at its best acts powerfully and is cheap. On the other hand, it deteriorates with age, is absorbed slowly and uncertainly and is very apt to cause gastro-intestinal disturbance.

The infusion has the same merits, but may be nearly inert if carelessly prepared, deteriorates rapidly and is often badly borne by the stomach.

A good tincture, made with 70 per cent. alcohol, is much more stable and is probably the best of the cheaper preparations. It is also irritating to the stomach and in common with the preparations already mentioned cannot be given hypodermically. It has sometimes seemed to me that its diuretic action was not so marked as that of the powdered leaf or the infusion.

The various digitalins on the market differ greatly in activity, some of them being comparatively inert. One of the best is a French preparation of crystalized digitalin, prepared in small granules by Nativelle. It is very active, very constant in its activity and stable, but cannot conveniently be given hypodermically.

The most nearly perfect digitalis preparation is due to the work of Gottlieb and was by him called digipuratum. By means of a series of extractions he freed the leaf from its irritating constituent, digitonin, and from the inert bulky resins that make up much of the ordinary extract. The resulting yellowish liquid is carefully standardized and taken up by sugar of milk in such proportions that the resulting powder has a definite therapeutic strength. Digipuratum is very stable, constant in its activity and not irritating to the stomach. It is, however, unfortunately very expensive and cannot be used hypodermically.

One drawback is common to all of these digitalis preparations. They are so slowly absorbed that we cannot count on any effect on the diseased heart until twenty-four hours after their administration was begun. Where a more rapid action is desired we naturally turn to the hypodermic syringe. Here the various digitalins will usually be found disappointing. Digitoxin is a much more active substance but is so irritating that it cannot be given hypodermically without causing great pain. A convenient solution is Cloetta's digalen, which is a solution of digitoxin, one cubic centimeter being said to contain one milligram of the drug. Given intravenously its action is very prompt and certain; by mouth, contrary to the statements of the makers, it presents no superiority over other forms of digitalis.

The secret of the successful administration of digitalis lies in pushing the drug to the limit of tolerance for the first few days. A drachm of the tincture, four tablets of digipuratum, three Nativelle granules or corresponding amounts of the other preparations may be given daily until nausea, distinct slowing of the pulse or irregularity, due to heart-block or extra systoles, show that the limit of tolerance has been reached. The drug may then be discontinued for a day or two and then resumed in smaller dosage. The mistake is far more frequently made of giving too small, than too large doses.

Strophanthus.—Next in importance to digitalis as a heart tonic comes strophanthus. But here we meet a paradox. The tincture of strophanthus is pharmacologically far more potent than the tincture of digitalis. In practice, however, it is much less active and very uncertain in its action. So much so that it may sometimes seem inert while at other times toxic symptoms arise from comparatively small doses. The explanation seems to be that it is slowly absorbed and easily destroyed in the digestive tract, so that it is never possible to say how much of the drug ingested will actually reach the circulation. Moreover, the therapeutic dose is very near the toxic dose. For these reasons the administration of strophanthus by mouth should be abandoned.

It is far otherwise with its active principle, ouabain or strophanthin. While so irritating that its hypodermic administration is exquisitely painful, it may be given by deep intramuscular injection or, better still, intravenously without discomfort and with prompt results. I am in the habit of using a sterile solution put up in sealed ampules by Boehringer. No cardiac stimulant at our disposal is at once so powerful, certain and prompt. The effect of the injection can usually be noted in ten to fifteen minutes. I have more than once seen it call back to life an apparently moribund patient. It should form a portion of every physician's and especially of every surgeon's equipment.

Like all strophanthus preparations, however, its therapeutic dose lies dangerously near the border-line of toxicity. Once a milligram has been given no more strophanthin or digitalis should be given for at least twenty-four hours. This, however, has its advantages. We have at least the comforting feeling that while there may remain many

other things to do for the desperately sick patient, the matter of cardiac stimulation need not concern us for the present. What the injection of strophanthin fails to do no other cardiac stimulant can accomplish, and we can calmly await the morrow secure in the knowledge that we have done everything possible in the way of cardiac stimulation.

INDICATIONS FOR TREATMENT

As in all the realms of medicine, so also in diseases of the heart, rational treatment presupposes accurate diagnosis. And by this term we do not to-day mean merely an anatomic diagnosis but what is usually of far greater significance, a functional one. Thus the diagnosis of mitral insufficiency has but little significance. What is really of importance to physician and patient is the answer to the questions: "Is the leak so great as seriously to handicap the circulation?" and "Is the heart muscle in a condition to respond to the demand for extra work necessitated by the valvular lesion?" Modern methods of diagnosis enable us to answer such questions with a fair degree of accuracy and it is for this reason that the more refined methods of cardiovascular diagnosis have a practical importance.

Valvular Lesions.—Once these questions have been answered, the treatment of valvular disease becomes simple in principle, though it may be difficult enough in the concrete case. Where the lesion is slight and the heart muscle in good condition, the individual need hardly be considered as ill. We have all of us seen men with a slight mitral leak or aortic stenosis who were able to perform without fatigue or dyspnea an average day's work and who, indeed, often never suspect that they are imperfect physically until a life insurance or military examination brings it home to them. Such individuals obviously require no treatment. Where the lesion is more serious but the myocardium relatively healthy, care must be taken to maintain the integrity of the heart muscle. Such patients must be made to realize that they are relatively crippled, they must choose a mode of life at a lower physical level than that of their more perfect mates and an occupation that makes no undue demands on the injured heart. Under such circumstances they may live comfortably for years, without medication, until the ultimately inevitable break in compensation occurs. It is when the heart muscle has become incompetent that the real treatment begins along the lines already referred to. While the general principles of treatment may be sketched, the precise indications vary with the individual cases, many of which demand of the physician the exercise of the highest degree of judgment. In general it may be said that the prognosis in the concrete case depends far less on the degree of heart-failure than on the integrity of the heart-muscle. Where the muscle fibers are relatively intact, the heart usually responds readily to proper treatment and apparently marvellous cures may be effected. Where the muscle fibers themselves are badly diseased, much less satisfactory results are obtainable and all we can usually do is to prolong life and to keep the patient as comfortable as possible. This brings us to the consideration of myocardial degeneration as such.

Myocardial Degeneration.—Until recently this group of cardiac affections was lumped together under the term myocarditis, and but little attention was paid to it. The graphic methods, especially work with the cardio-sphygmograph and the electrocardiograph, have thrown a flood of light on the hitherto obscure processes at work here and to-day the literature teems with investigations in this field. The most interesting cases are those characterized by an irregular pulse. Superficial observation may lead us to lump these cases together, but careful study enables us to distinguish myocardial lesions that differ radically in significance and in treatment.

The simplest cases are those of so-called "sinus irregularity." This is the irregular pulse occurring chiefly in children either spontaneously, especially about puberty, or more frequently after acute infectious diseases. Here auricles and ventricles beat, the latter in normal sequence after the former and the irregularity is due to the fact that the normal stimulus to contraction reaches the auricles at irregular intervals. Such cases require no treatment, unless it be some restriction in excessive indulgence in athletics. Obviously, however, if we are to avoid disaster, these cases must be distinguished from those of irregularity due to real myocardial disease, a matter in which pulse tracings are useful, though perhaps not indispensable.

Next in degree of mildness, come the irregularities due to extrasystoles. Normally, as is well known, the heart beats regularly because after each contraction the muscle is refractory to the constant stimulus to contraction exerted on it by the circulating blood. With beginning diastole the muscle begins to grow more and more sensitive until after a very constant interval the auricles have become sufficiently sensitive to respond by a contraction. This contraction causes a stimulus to pass down the bundle of His, whereupon the ventricles, too, contract. If, however, for any reason, auricles or ventricles have become hypersensitive, they respond before they have been completely rested and we have a small contraction out of turn. A considerable variety of irregularities may result according to the degree of hypersensitiveness and the location of the hypersensitive area; in the commonest form we have a fairly regular pulse with an occasional stumble, as it were. The clinical interpretation of this condition is often a matter of difficulty. Sometimes, it is unquestionably merely the manifestation of a neurosis and requires no treatment whatever. At least as often, however, it is due to a myocardial affection which cannot be neglected with impunity. In general it may be said that this kind of irregularity is not pathognomonic of heart disease. Other evidence of myocarditis must be present before the diagnosis can be made. Then the treatment must be along the lines already sketched, but in general it must be admitted that much good can not be expected from cardiac stimulants and our main hope for improvement lies in non-medicinal measures.

A still graver and not less interesting cause of cardiac irregularity is auricular fibrillation. Here disease has rendered the auricular tissue so hypersensitive that instead of contracting rhythmically, its little

groups of muscle fibers contract constantly and independently so that it is in a constant state of tremor, as it were. Some of these little partial contractions pass down into the ventricle, causing it to contract. The ventricles thus beat rapidly and irregularly and we feel at the wrist a jumble of irregular contractions, some strong, some weak. It would lead me too far to discuss this interesting condition in any detail; suffice it to say that such a heart is naturally seriously impaired and readily becomes incompetent. Fortunately, however, it is in just such cases that digitalis sometimes acts most triumphantly. The rapid pulse, while still usually irregular, becomes slower and stronger and the patient, who seemed and was at death's door, recovers with marvelous rapidity. Unfortunately, recovery is not permanent. Sooner or later the inevitable relapse occurs and each relapse responds less readily to treatment than its predecessor.

A much less frequent cause of cardiac irregularity is heart-block. Here we have a disease of the apparatus that conducts the stimulus from the auricles to the ventricles. The former contract normally, but every now and then a stimulus fails to pass through the diseased tissue down to the ventricles, so that the latter miss a beat. In the mildest cases, this dropped beat comes at long intervals, sometimes every second, third or fourth beat is dropped with some irregularity. When the conducting apparatus fails entirely to act, the auricles and ventricles beat independently of each other. In that case the pulse is regular, but usually very slow. Like all the other kinds of irregularity, this type can best be diagnosed by means of venous and arterial pulse tracings, although the skilled observer can dispense with instrumental aid. It is of interest to us here, because in this condition digitalis and strophanthus are absolutely contraindicated. They impair still further the function of the already diseased conducting apparatus and may seriously aggravate the patient's condition.

We thus see that in some forms of heart disease, digitalis and strophanthus are unnecessary, in some they avail but little, in some they are indispensable, in some they do harm. The importance of accurate diagnosis as a preliminary to treatment is obvious.

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THE OUTLOOK FOR THE MEDICAL PROFESSION FROM LEGISLATIVE AND ECONOMIC VIEWPOINTS.

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Another year has passed and the time has come to take account of stock. It pays at certain definite periods to look over the records and note the evidences of progress or failure, in order that we may the better plan for the future along economic and legislative lines as well

as in matters purely scientific; indeed, if the scientific is to endure on a high plane the economic status of our profession must be safeguarded.

During the year another session of the State Legislature has been held and the work of the Public Relations Committee of the Chicago Medical Society and Legislative Committee of the Illinois State Medical Society was extremely strenuous, perhaps only slightly less so than during the Forty-Sixth General Assembly. The Forty-Sixth was the most obstinate assembly the medical legislative committees ever encountered. That year the efforts made by the profession to defeat the persistent inclinations of the legislators to pass vicious medical measures was the most herculean task ever undertaken by the profession in this state. The experience gained at that session prompted the Public Relations Committee of the Chicago Medical Society at its close to make to the Society the following recommendations:

First—That it is absolutely essential as a matter of self-preservation for the profession to thoroughly organize, so as to be in the best position possible to head off at future sessions the pronounced tendency on the part of members of the legislature to lower the standard at present required of medical licentiates.

Second—That by organized effort the medical profession do its utmost to help return to the legislature every gentleman seeking renomination and re-election who voted with us at the last session in our attempt to prevent class medical legislation.

Third—That the profession do everything within its power to defeat those who opposed it in its efforts to secure legislation clearly in the interest of the people.

Fourth—That before the primaries of the respective political parties, the Public Relations Committee of the Chicago Medical Society ascertain the attitude of the various prospective legislative candidates along the lines of a uniform medical practice act. That the information thus obtained be transmitted to the physicians residing in various senatorial districts in order that the information obtained might be advantageously used on primary and election days for or against certain candidates.

These general policies were adopted and ordered put in operation in Cook County; later the Public Relations Committee of the Chicago Medical Society induced the legislative committee of the State Society to adopt its recommendation, thus making these policies operative in all counties of the state.

The wisdom of better organization, more alertness on the part of the profession and of beginning our work before the primaries and elections rather than after or while the Legislature is in session and perhaps at a time when many members have already pledged themselves for certain bills, is apparent from the following: In Cook County 75 per cent. of the candidates before the primaries signed a pledge to the Chicago Medical Society in which they agreed to vote to maintain a uniform method of admission to the practice of medicine. In Illinois outside of Cook County over 60 per cent. of the candidates before the primaries signed a similar pledge to the Illinois State Medical Society.

As a result of early activity on the part of the committees named a number of men who opposed us at previous sessions failed to be renominated, a few others got back by narrow majorities; in a few instances men who at previous sessions furnished the brains and sinews of war for the proponents of vicious medical legislation when they saw us digging their political graves surrendered, signed the pledge alluded to and agreed to vote in the future along lines mapped out by the organized medical profession.

A summary of the bills of interest to the profession presented at the last session of the Legislature is as follows: The Forty-seventh General Assembly opened with the regulation number of objectionable medical bills, conspicuous among which was the osteopathic bill, known as House Bill No. 380. This was killed in committee, a much easier victory than in previous years. The osteopathic old guard men who sponsored and stood behind similar measures in previous years were conspicuous by their absence because of the terrific bombardment given them before the primaries and election by their medical constituents.

The optometry bill, known as Senate Bill No. 140, with its counterpart in House Bill No. 121, met its Waterloo in the Senate, where it was defeated because it was only able to muster fourteen votes, twenty-six votes being necessary to pass it.

There was passed at the last session House Bill No. 608, known as the school nurse bill. This measure escaped the attention of everyone until it was enacted, the oversight being due, no doubt, to the deception in its title, which read: "For an act to add a section to an act to establish and maintain a system of free schools." It was a most vicious piece of medical legislation, equally if not more objectionable than the osteopathic and optometry bills we have been fighting for years. It permitted school nurses to assume the functions of physicians without having them qualify as such; further, it did not prescribe that they should qualify even as nurses. The Public Relations Committee of the Chicago Medical Society and the Secretary of the State Board of Health pointed out to Governor Deneen the many serious defects in the bill, and His Excellency promptly vetoed it. For doing so Governor Deneen is entitled to the commendation of the medical profession of Illinois.

At the last session there failed to pass Sec. 6 A, that portion of Senate Bill No. 235 which was framed to better the administration of the medical practice act and thereby better protect the public. If adopted it would have given the State Board of Health authority to revoke for cause licenses issued before 1899 as well as those issued since that date. At present no matter what crime or unprofessional or dishonorable act may be committed by a practitioner, the State Board of Health has no power to revoke his license providing it was issued between July 12, 1877 and June 30, 1899.

The opposition to Section 6 A of the bill came, as in 1907 and 1909, from medical advertisers and certain newspapers who in the first instance were afraid of prosecution by the State Board of Health and in the latter from fear of the loss of advertising. These influences, therefore, were

sufficiently powerful to kill this bill and a similar one at the last three sessions of the Legislature, but the height of the ridiculous was reached when a certain county medical society formally instructed its representatives to do their utmost to prevent the enactment of Section 6 A of Senate Bill 235, or that portion of the bill which proposed to give the State Board of Health jurisdiction alike over all medical licenses, that is, licenses issued previous to 1899 as well as those issued since that date. "Consistency, thou art a jewel." So until the next session of the Legislature in 1913 the advertising medical gentry will continue to practice unmolested. They are free to go from town to town seeking whom they may devour, deceiving and swindling the public, promising cures that can't be effected, collecting cash and notes (the latter speedily discounted in a local bank) for treatment that is not given.

Yea, more, at the last session there was passed House Bill No. 311, the enactment of which was the greatest blow ever delivered the medical profession of this state. This law removes every possible means formerly possessed by the State Board of Health for the suppression of quackery. After July 1, 1911, unlicensed practitioners can practice medicine without fear of prosecution. Under this new law all fines heretofore used for prosecuting quacks must be turned into the state treasury. The regular appropriation of the State Board of Health contains a provision that no portion of that appropriation shall be used for attorney's fees, and on the other hand the attorney general holds that it is not the statutory duty of state's attorneys to bring suits for violations of the medical practice act. The Public Relations Committee of the Chicago Medical Society saw the viciousness of the enactment of such a law and with the assistance of the State Board of Health did its utmost to defeat it, but to the discredit of the medical profession, it lent no assistance. The bill was practically ignored by the profession. The law in its present form is a thousand times more detrimental to organized medicine than the osteopathic, optometry and all quack bills combined that have ever been introduced into the various legislatures in the last decade. At the present time it is not necessary for a practitioner to even take out a license, nor is it necessary even to have attended a medical college in order to practice medicine in the State of Illinois, for, beginning July 1, 1911, the State Board of Health will be unable to prosecute violators of the medical practice act. The medical profession without even a protest allowed the State Legislature to completely emasculate the medical practice act in Illinois, and physicians have no one to blame for the conditions but themselves.

At the last session there failed to pass House Bill No. 493, known as the birth and death bill. It received but sixty votes against seventy-seven required. Accurate registration of births and deaths is one of the necessities of modern sanitary science. In Chicago, for instance, only about 30 per cent. of the births are recorded, and as a result no comparison can be made of the city's birth rate with that of any other city, or of the birth with the death rate. Every country and city in the old world has careful registration of births and deaths. The bill was the

model one suggested by the United States Census Bureau, and endorsed by the American Medical Association, the Illinois State Medical Society and the Chicago Medical Society. It should have become a law, for Illinois is woefully behind in this matter.

A careful analysis of proposed medical legislation at the last session shows that the bills that the profession opposed most actively (osteopathy and optometry) were defeated, and those to which the profession lent only its moral support failed to pass; for instance, vital statistics, and that portion of Senate Bill No. 235 which would give the State Board of Health jurisdiction alike over all medical licentiates. In other words, on account of the apathy of the profession there was enacted House Bill No. 608, permitting school nurses to assume the function of physicians without qualifying therefor; also House Bill No. 311, which completely emasculates the medical practice act in that it renders the State Board of Health powerless to prosecute quacks, unlicensed practitioners, etc.

Medicine as a means of livelihood has arrived at the most critical period of its history. The very existence of the doctor is at stake. Survival of the fittest is the issue of the day. The economic status and outlook for the profession is pitiable. The future, it would seem, is a long road full of many pitfalls, with many hard bumps in store for the physician.

In this country the average annual income of the doctor has recently been placed by competent authorities at \$700 a year, or about \$2 per day. I am constrained to believe that these are not far from the real figures. Is it not time for the profession to be up and doing?

Economic conditions are admittedly not as favorable to-day as they were ten or twenty years ago. The earnings of a large proportion are less than those belonging to organized labor. This is especially noticeable when we compare the declining earnings of general and contract practitioners with the advancing earnings of artisans. Is it either consistent or proper that highly educated, well trained men who have spent many years at a heavy pecuniary cost acquiring particular knowledge and skill for this at best arduous profession must be forced to subsist on a pittance that a miner or mechanic would reject with scorn? The cost of living and the necessary professional equipment are too high when compared with the compensation most physicians receive. Society cannot afford to support its physicians indecently. It demands of them a certain standard of living but does not pay them liberally enough to maintain that standard. Is it any wonder that so many of the profession have drifted into various cults and pathies where the prospect of a decent remuneration is greater, all this in violation of the principles of the code of ethics held out by the regular schools? It is easy to be ethical if your stomach is fully at peace with the world. In the practice of medicine men do not cease to be human and in this work as in every other the law that declares that "self-preservation" is the first law of nature is frequently a defense and shield for an infraction of the so-called code from economic necessity.

Let us study the signs of the time for a moment. Sanitation and preventive medicine are reducing disease materially. Hygiene, not

medicine, is the slogan of the day. Prophylaxis, not cure, is the watchword. The work of the physician will finally be eliminated by being absorbed as a function of the state. Fine economic prospect this, for the doctor. Again, abuse of medical charity, as practiced in our hospitals and dispensaries, is a powerful factor operating to reduce the physician's income. Competition is becoming sharp; throughout the country thousands of graduates are being turned out by competing medical colleges, thus augmenting the number of those practicing medicine. The effect of this competition is cutting down the remuneration of medical men.

The spread of popularity of quackish medical fads is more prevalent than ever. The tendency to multiply them in the treatment of disease is rampant. Forty-eight new cults have arisen in America within the last ten years, many of which claim to practice the healing art in some form. Some of them have grown at tremendous speed and at the expense of regular medicine and the health of the people, as, for instance, pseudo Christian Science and allied cults and various "pathies," all rejoicing in more or less recognition from the laity. While many of them appeal chiefly to ignorant credulity, unfortunately the clientele which encourages such imposters is not exclusively composed of silly women and senile men. Whether one or all of these are responsible for the deplorable conditions matters not; every physician must look the situation squarely in the face.

This critical condition is not confined to Chicago or Illinois, but is a burning question everywhere. In the old world pauperization of the medical profession has become a veritable curse. In Austria, Germany and England it has become necessary for the doctors to organize medical protective leagues in sheer defense of their means of subsistence. In England conditions have become such that 7½ cents is paid per call, this fee including surgical dressings. In the House of Commons there has recently been introduced the national insurance bill, which provides for wholesale conversion of private into contract practice. The English profession is so aroused that the lay and medical press are being deluged with letters from angry physicians. So acute is the situation that a special meeting of the British Medical Association was recently called, lasting two days. The first day's session continued from 10 a. m. to midnight. The Association has 22,000 members, somewhat more than one-half of the profession; however, it represents the whole profession in its stand against that bill. For the purpose of fighting it physicians are daily joining the Association in large numbers. A mass meeting of over 1,500 doctors was held in London, the largest meeting ever held to consider a medico-political question. On the platform were the leaders of the profession, including the president of the Association, the president of the Royal College of Surgeons, the president of the Royal College of Physicians, and others. The system of contract practice was loudly denounced and the sentiment wildly cheered. The physicians agreed to present a solid front in their fight in defense of their rights. The bill has done one thing which seemed previously impossible, that is, to thoroughly unite the whole profession in England.

Not only in England is the trend strong toward communistic and contract medicine. In Bohemia a new social insurance act will become a law soon; it will at once diminish the doctor's scope, for it will turn his private patients into the domain of practice served by the clubs. Zurich, Switzerland, is determined to supply medical and lay attendance free of charge in all obstetric cases in that city. The socialistic wave that is breaking over the whole world as to things in general is also having a marked effect on the future medical status there. Here, as in Europe, we are bound to be brought within the scope of state service unless we wake up and unite against this encroachment upon individual initiative and incentive to progress.

In New York, Boston, Philadelphia, Baltimore and other cities in America similar conditions exist, and organizations similar to those established in Europe have been formed to fight the encroaching evils which are acting so detrimentally to the profession everywhere. A feeling exists among a large number of the profession, making itself manifest from time to time in letters and articles in the medical press, that medicine should be represented more numerous than it is in the legislatures. There seems to be an especial attitude of aggrievance over the much prated circumstance that lawyers constitute so large a proportion of the personnel of our legislative bodies. Dr. Reed was perhaps the first to start this war cry, and it is being reiterated and echoed in periodic outbursts. "We should have at least as many physicians as lawyers in Congress," says a recent correspondent in the *Lancet Clinic*.

In the Forty-Seventh General Assembly there were six physicians, while over 50 per cent. of its membership were lawyers. Is it any wonder that the quacks were able to emasculate the medical practice act and so curtail the power of the State Board of Health as to prevent prosecutions of unlicensed practitioners, quacks, etc.?

Up to last year our legislators considered the medical profession a political non-entity; they claim that its members take no interest in civic affairs and for that reason they heretofore eliminated the doctor as a factor that in any way contributed to a legislator's success or failure at the polls. In its report two years ago the Public Relations Committee of the Chicago Medical Society said: "The medical profession will never get what it is entitled to in the way of legislation until it wakes up and becomes a factor to be reckoned with politically. This can best be done by bringing the law-maker to a realization of the tremendous influence of organized medicine and the votes they will lose if they do not give the profession respectful consideration."

The doctor's advice on any public question is rarely sought for or listened to. He is looked on as being only a doctor. For this negative esteem in which he is held, he has only himself to blame. With rare exceptions a physician has no opinion on subjects outside of his own profession. He does not keep himself posted on current events. All industrial questions vitally concern the doctor. A deep study of some of the different phases of these would be well worth his while, both to benefit society and himself.

The time has certainly arrived when the profession must become more aggressive; take a keener interest in public affairs and encourage its

members to leadership among men. As an organization we should not only ask for what we want, but should be in a position to demand it if necessary.

Medicine, it has been shown, is undergoing a metamorphosis. I do not believe the doctor should be left to shift for himself, to survive if he can or perish if he must. Can anything be done toward protecting the individual member of the profession by curbing the great forces now operating to engulf him? I think there can. In medicine, as in other forms of business, unification for mutual protection must be brought about. In organization lies our only hope. What was done through our imperfect organization with Senate Bill No. 140 and House Bill No. 380 illustrates what we may accomplish when the 11,000 physicians in Illinois become organized and work in harmony to insure the safety of every medical certificate.

Let us, then, at the earliest possible moment arouse ourselves to a hearty and unselfish co-operation, and combine in an offensive and defensive alliance against the numerous forces that seek to lower the standards of education, licensure and practice, and let down the legislative bars against charlatanism and quackery. It is vain for a few to make a stand against encroachment of private patients and public bodies, if within our own profession are to be found those who are willing to accept what others with the true interest of the profession at heart indignantly reject. And it is against human nature to expect that men should present a bold front to the common foe if they are morally certain that they will be stabbed in the back by the fellow within their own ranks.

The old saying that "in union there is strength" has been true for all ages, and now that the struggle for existence is daily growing fiercer it has passed beyond the region of platitude. Doctor, the fight is on; it means a battle royal against entrenched power; it is bound to be a long, desperate conflict, and if the profession is to survive as a body of self-respecting, free men, progressive and decently remunerated, you must do your part. Will you do it?

15 East Washington Street.

INFANTILE PARALYSIS *

V. A. McCLANAHAN, M.D.

VIOLA, ILL.

Infantile paralysis, or acute anterior poliomyelitis, has been epidemic in many parts of the United States lately, and its epidemicity has led to general interest on the part of the profession in the disease, and to study of its cause and symptomatology. It is infectious, although the causation germ has not been discovered. One of the remarkable things about the disease is its seasonal appearance, it seemingly always coming in summer and cold weather putting a stop to its prevalence. Some have thought that it only prevails during the hot, dry weather, but there have been at least small epidemics reported during wet weather.

* Read before the Mercer County Medical Society, May 9, 1911.

One of the most extensive epidemics reported was that of York County, Nebraska, during the summer of 1909. There were 200 cases and the death rate was 7.5 per cent. The paralyses were of all forms: facial, hemiplegic, of the upper extremities, of the lower extremities, of one leg, of one arm, or of one upper extremity and the opposite lower extremity. A later report of the Nebraska epidemic by Dr. McClanahan of Omaha says that his reports show that nearly, or all, of the deaths were due to bulbar paralysis, and by this was meant an involvement of the motor centers in the medulla leading to paralysis of respiration. He says that it was not surprising that mistakes were made in the diagnosis of the disease, as the text-books have little to guide the physician in his diagnosis and the literature of the disease was not at that time generally accessible to the profession. It was called summer grip, mysterious disease, spinal paralysis, cerebrospinal meningitis and poliomyelitis.

These were cases of cerebral type that could not be differentiated from true meningitis except by lumbar puncture. So far as then ascertained, the diplococcus intra-cellularis meningitidis was not found in any of the cases. Collins says that from a study of the disease clinically no information has been gained as to how the virus gains access to the system. From experiments on monkeys, however, Flexner is convinced that the portal is the same as in epidemic cerebrospinal meningitis, namely, the nasopharynx. The necessity of adopting measures to keep the mucous membrane in a state inimical to infection in children of a community in which the disease is prevailing is obvious. The period of incubation is from five to ten days. Dr. McClanahan's paper, which appeared in the *Journal A. M. A.*, closes with the following suggestions:

1. It is an infectious disease.
2. The evidence that it is contagious is accumulative.
3. The only safe procedure is to treat it as we would measles or scarlet fever, namely, isolate the patient.
4. We should realize that it is a general disease, that it may involve any part of the nervous system, that the bulbar type is usually fatal, and that our treatment should be directed toward prompt and efficient elimination.

Allow me to report the following case:

E. A., girl, aged 4 years; previous history good; was not well for a week or ten days before I was called; heavily coated tongue, constipation, headache, eyes injected; temperature, 102.6; pulse, 100; some difficulty of breathing. She acted as if her hands and arms were somewhat stiff, and one morning her parents reported that she had fallen out of bed after they had gotten up, and as a result of the fall her back was sore and stiff and legs useless. Wasn't this getting the cart before the horse, hadn't she fallen because they were paralyzed? Bladder was paralyzed and urine had to be drawn for several days. The temperature gradually fell, and the symptoms improved, but her back was sore and stiff and her hips useless. Her back improved, and now, twelve weeks after the initial attack, the patient can creep and sit upright, but her legs are paralyzed, the right leg absolutely useless and the left almost so. While she was convalescing, the only other child in the home, H., aged

8 years, was taken suddenly ill with severe headache, stiff neck, injected eyes, restlessness and sleeplessness, severe convulsions and a temperature of 103. In three days he was better and no paralysis noted. Was this an abortive attack of poliomyelitis?

Our treatment was palliative and eliminant. In both cases there was constipation; hence laxatives and high enemas were given. The patient left paralyzed was given iodid of potassium and later syrup of the iodid of iron; massage and the faradic current were also used.

FURTHER REPORT ON CASE OF ACUTE ANTERIOR POLIOMYELITIS

Since reporting on the case of E. A., at the semi-annual meeting of this society, held in New Windsor, we have taken her to Chicago, where she was seen and examined by Dr. Rothstein, a neurologist. He advised a system of regular bathing, the use of electricity, both faradic and galvanic, tonic treatment, using such tonics as strychnia, cod liver oil and hypophosphites, together with graduated exercises, massage, fresh air, sunshine, etc. We have been carrying out the treatment as outlined and are able to report improvement. The general health of the patient has improved greatly and she can now stand unaided.

The treatment of poliomyelitis would seem to be along the line of preventing deformities, and the restoration to every muscle whose nerve supply is not cut off, of as much power as possible, and to do this it is of the greatest importance to carry on a series of progressive exercises in the bed or chair or on the floor. One must use ingenuity to make these exercises attractive and encourage the child by rewards to increase the number of times of the movements each day. We have fixed up a walker for our patient, which seems to encourage her to stand. It is built on the principle of the baby walker—a supporting frame, inside which she stands, with casters under the frame, which makes it easily moved.

It has seemed to us that the regular and persistent massage given the affected parts has aided greatly in the restoration of power to them. Seemingly electricity is of value in these cases, and the more faithfully and regularly it is used the greater the improvement will be.

We are told that Sir Walter Scott was a victim of infantile paralysis, which attacked him at the age of 18 months. And it is interesting to note that the treatment prescribed by his grandfather, who was a distinguished anatomist and physician, was the same as that recommended to-day. He was sent to his grandfather's farm in Scotland, and when the day was fine he was carried out among the crags and rocks and laid down in the care of an old shepherd. He soon began to roll about and try to stand, finally to walk and climb and run, and in his own words he says: "I, who in a city had probably been condemned to hopeless and helpless decrepitude, was now a healthy and high-spirited and, my lameness apart, a sturdy child."

It is likely that this disease will again appear, sporadically and epidemically, and it may be in Mercer County. And so it behooves us to be prepared for the conflict and to know and remember that there are three distinct indications, the first of which is to preserve life and pre-

vent paralysis; the second, to relieve pain; and the third, to remove residual paralysis.

As to the first indication—preserving life and preventing paralysis—we have as yet no certain means of accomplishing these objects, but several drugs and procedures have seemed to help and an immunizing and curative serum is hoped for. Special indications requiring attention are the constipation and retention of urine, both of which were present and troublesome in this case, and seemingly better combated by copious enemata than by drugs. It was necessary for me to use the catheter for several days during the height of the attack.

The second indication is to minimize the pain and irritability of the attack and to secure rest and sleep. For this purpose, the warm bath or wet pack may be used to good advantage, and partial or complete immobilization of the affected parts by cushions, pads, pillows or by a jacket.. To remove the residual paralysis, the measures I have named seem to aid.

A REPORT OF A CASE OF BENICE-JONES ALBUMOSURIA *

CARL A. W. ZIMMERMAN, M.D.
EAST ST. LOUIS, ILL.

In 1841 Bence-Jones discovered in the urine of one of McIntyre's patients a peculiar protein body. It differed from the usual protein bodies found in the urine, in that the precipitate which occurred on warming disappeared on boiling and returned on cooling to redissolve on boiling, etc. The matter remained dormant until in the '80s, when Kuehne published his investigations of a peculiar urinary body. He found that it closely resembled the hemialbumose isolated from the products of digestion. Since that time, so far as I know, something like seventy-five cases have been reported. My report is somewhat incomplete, because I was not allowed to have all the urine I needed to secure a sufficient quantity of the proteid for more extensive examination; and because a post-mortem examination was not allowed. In consequence of this, no more space will be used in referring to other reports, except that at the end of my article I will call attention to a few papers which were interesting reading to me. The following history of the case was taken May 27, 1910.

Family History: There is no history of new growths, tuberculosis, rheumatism or nephritis. Oldest son died of diabetes mellitus. Father was a small man, but two paternal uncles were tall and obese.

Past History: Had lobar pneumonia at 15, and once later. Rheumatism at 26; was not very ill. Twenty years ago had severe neuralgic pains in back of his neck and head which persisted for about one year, in the course of which time a large mass developed in the right posterior triangle of the neck. The mass exists to-day, is the size of a duck's egg, and has not grown in fifteen years. It is under but attached to the skin, and is freely movable, painless, and apparently a lipoma.

* Read before the East St. Louis Society of Physicians and Surgeons, Oct. 5, 1910.

Patient came to America when 24 years of age and promptly acquired malaria, from which he suffered acutely at intervals for five years. He contracted a right inguinal hernia soon after his arrival, which disappeared after wearing a truss for two years. In the early '70s he sustained an injury to his back while lifting a sack of coffee, and had a like injury shortly after. Serious results did not follow. In 1891, had an attack of vertigo after running; two repetitions followed on the same day, but never since. Denies venereal taint. Last fall injured his ankle in a jump from a wagon and was disabled for a week. Has had an eczema over each tibia for twenty years. Was a baker from 1855 to 1865. His various occupations since then have been: worker in a stone quarry, teamster, farmer, barkeeper and merchant. In his younger days, patient smoked excessively but never used liquor beyond moderation. He has always been a moderate diner, using the plain foods, and meats very sparingly.

Present History: Six weeks ago a pain appeared in patient's back, low down, which gradually grew more intense. At first it was noticeable, as a rule, only when he stooped or turned in bed; yet there were times when he suffered intensely in the night when not active. The pain was referred principally to the muscle mass lying on each side of the spinal column and between the last ribs and iliac crests. It was dull in character, with occasional sharp, shooting pains which made him cry out, and occurred oftener if he brought into play his lumbar muscles. Recently he has laid much stress on another pain which, he explains, has existed all the time, but which I did not locate until May 24. It is on the eleventh rib, almost its full extent, and is increased on pressure but no swelling can be made out. This is the pain which is apparently not increased on motion but the one which troubles him at night. Neither pain radiates.

I first saw patient on May 21, 1910. He had been under the care of another physician and had visited one of the neighboring hot springs without relief. My first diagnosis was lumbago, which agreed with the diagnoses of his previous attendants. When, however, after my second visit an examination of the urine gave me a reaction I had never before seen, I began to look for other trouble.

Treatment for a few days consisted in local antiphlogistic and immobilization methods, together with application of the interrupted current, without, however, any relief. As consultants, the late Dr. Baumgarten and Dr. Wilhelmj suggested the use of salicylate of soda until a positive diagnosis could be made. The very liberal use of this drug, together with various other analgesics, did not relieve materially the suffering of our patient.

Present Condition: Patient has a sallow complexion, but it has been so for five years to my knowledge. He weighs 237 pounds, this being 8 pounds less than he weighed three months ago. His eyes are slightly prominent, but there is no increased tension nor anything about them to arouse suspicion of Basedow's disease or tabes. The moisture of the skin is normal and there are no eruptions aside from the eczema previously mentioned, and no edema exists.

Patient prefers the recumbent position and appears perfectly comfortable when at rest, unless the sharp, shooting pains distress him. Efforts to alter his position are at all times accompanied by pain, which is severe, dull in character and most generally referred to the thickest portion of the lumbar muscles. On assuming a sitting posture, he immediately employs the support of his right arm to relieve the muscles of his back, by leaning to one side and resting his elbow on his thigh. He is unable to sit perfectly erect without pain, unless by holding his breath, the so fixed thoracic muscles support the lumbar group. Obviously then, he rarely sits erect.

When patient is in a comfortable position, his respirations are full, regular and easy, and there are no abnormal physical signs in the respiratory organs. The pulse rate is 72; the pulse is soft but not easily compressible. Some days the pulse misses a beat occasionally; on other days this fault cannot be detected. The heart sounds are clear, there being no abnormal accentuations or murmurs. Occasionally there is a miss of a beat; the heart stumbles as it were. The number of red cells was 4,500,000; white cells, 7,000. There were 70 per cent. of polymorphonuclears, 28 per cent. of lymphocytes and 2 per cent. of eosinophils. The red cells stain well and quite fully, showing practically a negligible anemia. There are no enlarged glands.

The tongue is slightly coated. Abdominal walls are thick but not resisting. Liver and spleen not palpable. The appetite has not been impaired, and there are no dyspeptic symptoms. Bowels require the aid of cathartics much of the time.

There are no motor or sensory paralyses; knee and elbow reflexes normal; pupils react to light and accommodation normally.

But one bone gives symptoms, namely, the eleventh rib. It is always painful to the touch and is the site of the severe nocturnal pains. There is, however, no abnormality of contour.

The temperature has been taken frequently and at various times of the day but has never been febrile.

Patient urinates three or four times daily without discomfort and is not disturbed at night. Repeated microscopical examination of centrifugalized specimens of urine have given no evidence of organic disease of the urinary tract. The report of further examinations of the urine will follow.

May 31, pain on eleventh rib seems more localized; no swelling.

June 24, patient in the hands of Christian Scientists. He took a drive two days ago, but suffered severe pain at every jolt of the buggy. He weighed 222 pounds. Yesterday he was unable to leave his bed because of pain. His right eleventh rib is extremely painful on pressure but presents no irregularity of surface.

July 13, I was asked to make a social call, and found that patient was greatly discouraged. He suffered great pain and there was much evidence of a great general nervous depression. He had been driving twice since my last visit and as before suffered great pain in his back when the conveyance was jarred. The eleventh rib is perhaps not quite so tender as previously mentioned, but there is a very tender spot on the crest of the left ilium about 2 inches in front of the posterior supe-

rior spine; one on the left great trochanter, and another on the head of the left humerus. The different bone pains are identical in character.

Dr. C. F. Wilhelmj, who saw the patient in the last few days of his illness, tells me that the patient suffered excruciating pains in his bones, and especially radiating from the shoulders into both arms and several fingers. I would judge the latter pains to have been due to a neuritis from pressure, perhaps of a diseased vertebra.

On June 28, I was permitted to have a 24-hour specimen of urine, the findings in which, so far as I was able to examine, will here follow:

The specimen was collected between 7 a. m., June 27, and the same hour of the following day, and measured 1,100 c.c. A few thymol crystals were added as a preservative. The urine is of a dark amber color and turbid; reaction to litmus distinctly acid; specific gravity, 1,022. (The specific gravity of two previous specimens cooled to 15° C. was 1,025 and 1,028 respectively.) It is noticeable that on shaking the urine a persistent froth results.

1. To a specimen of filtered urine a quantity of sodium hydrate solution was added; as a very dilute copper sulphate solution was allowed to run down on it a beautiful blue-violet ring was seen at the contact.

2. On pouring some of the filtered urine on a solution of the 10 per cent. nitric acid solution a ring is formed at the contact. On shaking, the fluid becomes turbid, to clear on boiling, cloud on cooling and clear on boiling, etc. On the addition of stronger ammonia to the cooled specimen a yellow (salmon yellow) color appears. (Xanthoproteic reaction.)

3. A few c.c. of filtered urine were poured on concentrated HCl and a cloudiness was seen which dissolved on boiling and returned as a stringy precipitate on cooling.

4. When the filtered urine was poured on concentrated H₂SO₄, a lighter ring and cloud appeared than in Nos. 2 and 3, and it cleared on boiling and returned as a light precipitate when cooled.

5. Phosphoric acid, when added to the urine, caused no precipitate.

6. Tannic acid, when added to the filtered urine previously acidified with acetic acid, gave a dense precipitate which on heating gently was *entirely dissolved*, to recur on cooling and again disappear on heating to boiling.

7. With trichlor-acetic acid a precipitate occurred, which cleared on heating and recurred on cooling, etc.

8. Glyoxylic acid mixed with the urine and poured on concentrated sulphuric acid, gave a purple-violet ring.

9. On heating the filtered urine gently, the first cloudiness appeared at 65° C. (In all other cases that came to my notice 55° C. was the point of beginning turbidity.) In continuing the application of heat to 100° C. no clearing was noticed, but rather an increased cloudiness and a fine precipitate.

10. The addition to the urine of a saturated solution of magnesium sulphate in equal quantity, or saturating the urine with the salt, gave no precipitate.

11. An equal volume of saturated solution of sodium chlorid added to the filtered urine caused no visible change; the same result being obtained when the urine was saturated with the salt. If now acetic acid was added a dense cloud was formed. On boiling a heavy precipitate fell to the bottom, and there was no clearing of the solution above.

12. To a portion of urine filtered three times through double filter paper, two volumes of saturated ammonium sulphate solution were added, causing a heavy cloud. This was filtered, the filtrate was slightly cloudy but did not give the biuret reaction. The precipitate was practically wholly soluble in water and gave a pronounced biuret reaction. When the precipitate was exposed to dilute iodine solution, a yellow color occurred. In this test a positive reaction for secondary albumose was obtained.

13. When acetic acid and a few drops of potassium-ferrocyanide solution were added to the filtered urine, a cloudiness occurred which increased on standing and became further intensified on heating.

14. A solution containing citric acid and potassium-mercuric-iodide added to the filtered urine gave a milky solution. On heating, the body of the fluid cleared materially, but a fine precipitate fell to the bottom of the test tube.

15. Lugol's solution added to the urine caused no precipitate.

16. Millon's reagent gave a precipitate which turned rose-red on boiling.

17. Alcohol, when added in 2 volumes to 1 volume of urine, caused first a diffuse milkiness, then a fine precipitate which was soluble in potassium hydrate solution. In ammonia it was soluble to a less extent, the solution not becoming as clear as with potassium hydrate solution.

18. The amount of proteid in the urine as measured by the Esbach albuminometer was 6 pro mille.

19. When acetic acid was added to the urine the solution remained clear; on heating, however, a cloudiness and finally a precipitate was formed. The specimen was filtered, the precipitate giving a biuret reaction (serum albumin). The filtrate was treated with ammonium sulphate and a heavy precipitate obtained which was filtered off and found soluble in water; it also gave the biuret reaction. In some specimens of urine obtained on other days, the solution remained entirely clear when exposed to acetic acid and heat, showing that intermittently a serum albumin was present.

20. The reaction with lead acetate and saturated sodium chloride solution as described by L. Napoleon Boston¹ was not positive; a dirty brown but not a black precipitate was formed.

In a further effort to prove the nature of the substance before me, I treated a portion of urine with acetic acid and thoroughly boiled it, getting a fine precipitate. This was poured through a double filter, leaving a perfectly clear solution, which shall henceforth be known as solution No. 1. (The precipitate secured on boiling with acetic acid was serum albumin.) Another portion of urine was saturated with ammonium sulphate and passed through a filter; the precipitate dried and dissolved in water, which solution shall be known as solution No. 2.

1. Am. Jour. Med. Sc., cxxiv, No. 4, p. 567.

Both solutions were then treated according to table and directions given on page 58, Vol. 4, of Allen's Commercial Organic Analysis, as follows:

	Solution No. 1	Solution No. 2
1. Dilution with water.....	No change	No change.
2. Saturation with magne- sium sulphate.	No change	No change.
3. Saturation with ammonium sulphate.	Precipitate	Precipitate.
4. Reaction on boiling with slight acidulation with acetic acid.	No change	No change.
5. Cold concentrated nitric acid.	Precipitate soluble in ex- cess, or, on heating, reap- pears on cooling.	Precipitate soluble in ex- cess, or, on heating, reap- pears on cooling.
6. Picric acid	Precipitate soluble on boil- ing.	Precipitate soluble on boil- ing.
7. Potassium ferro-cyanide ..	Precipitate	Precipitate.
8. Potassio-mercuric iodid ...	Precipitate soluble on boil- ing.	Precipitate on addition of acetic acid, soluble on boiling.
9. Biuret reaction	Rose red	Rose red.
10. Cupric sulphate	No precipitate	No precipitate.

The results here tabulated point, with the exception of one instance, to the presence of a deuterio-proteose. The potassio-ferrocyanid test was positive for hetero-proteose, and not for deuterio-proteose.

CONCLUSIONS

While most of the tests of the first series merely tell us we are dealing with a protein body, we know from test 19 that there are two proteins present, one a serum albumin. That serum albumin is present in a very small amount may be judged from the very slight precipitate; also from reaction 2, inasmuch as the solution became perfectly clear on boiling. In reaction 14 the precipitate which fell was probably serum albumin, because by the same test, in series two, reaction No. 8, with urine freed from serum albumin, no precipitate insoluble by heat was noticed.

The presence of serum albumin also mars the result in reaction 9. We may, from reactions 2, 12, 13 and 19, exclude peptones; and from reactions 10, 11, 12, globins. Mucin may be dismissed without comment, having no positive reaction to support it.

From the results obtained in the second group of tests (Allen's), we see that all reactions but one are positive for deuterio albumose, the one, No. 7, indicating hetero albumose.

Here, then, is an albumose in the urine with characteristics of its own; and taking into consideration the patient's clinical history, the diagnosis of multiple myelomatosis with Bence-Jones albumosuria is justifiable.

I wish here to express my thanks to Mr. Wm. D. McNally for calling my attention to Allen's work, and for other kind suggestions.

Interesting articles may be found as follows:

Am. Jour. of Med. Sciences: Vol. 125, No. 4, p. 658, by L. Napoleon, Boston; Vol. 123, No. 6, p. 976, by Chas. E. Simon; Vol. 126, No. 4, p. 644, by Parks Weber; also in Zeitschrift für Physiologische Chemie, 1900, by Magnus Levy.

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SEPTEMBER, 1911

THE SPRINGFIELD MEETING

The Council of the Illinois State Medical Society met at the New Leland Hotel, Springfield, Thursday, August 24, for its regular quarterly meeting. One of the main objects of the meeting was to confer with the local committee of arrangements concerning the next annual meeting of the Society. A number of points were settled; among these we mention the following: The headquarters will be established in the New Leland Hotel, a modern caravansary of 200 rooms with unusual equipment of lobby space, committee rooms and parlor, conducted on a liberal plan. Those members of the Society wishing choice accommodations for the meeting should communicate with the hotel, or members of the committee at their earliest convenience, in order to secure the choice of rooms. The sessions of the Scientific Sections, of the House of Delegates and the exhibition of drugs and instruments will probably be held in the new Y. M. C. A. building, located one block east of the hotel; this will also be the place of registration. The rooms are ample in size, well lighted and ventilated, and are unusually well adapted for the sessions of the society. It was suggested that the welcome address and preliminary opening be delivered on Tuesday afternoon, this to be followed by the meeting of the secretaries' conference. A 6 o'clock table d'hôte dinner will be served in the

gold room of the New Leland, which will accommodate at least 300 at one seating. It is hoped to have that number present the first day. Tuesday evening the first and important session of the House of Delegates will be held in Ferguson Hall of the Y. M. C. A. This hall is so arranged that the delegates can be accommodated on the lower floor, and the visitors excluded from this floor and accommodated in the gallery. It is suggested that the scientific program be commenced at 8 o'clock Wednesday morning, and continue through without interruption until 6 p. m.; this will be feasible because the two sections will meet together, thus providing two sets of officers. At 11:30 the hotel will begin to serve lunch at a price of 50 cents, and will be able to seat 400 at a time. In this way there will be no crowding at the tables, and the members can lunch at any time for three hours during the middle of the day. At 6 p. m. the society will probably adjourn to Washington Park, where an *al fresco* lunch will be served followed by vaudeville entertainment. The band concert will begin at 5:45, and continue through the lunch and evening and for the dance, as at the previous meeting held in Springfield. Thursday morning the session will again begin at 8 o'clock and continue until all scientific papers are read, the officers installed and *sine die* adjournment.

It has also been suggested that the profession be invited to come to Springfield on Saturday before the meeting; that the ministers of the various churches be requested to prepare special sermons to the medical profession on Sunday; and that clinics be held at the hospitals on Saturday, Monday and Tuesday morning. It is believed that there is an excellent opportunity to introduce some new features at this meeting, which will prove very attractive and profitable. It seems probable that from 1,200 to 1,500 members of the profession will attend. We will be glad to hear from members regarding the new features of the meeting. The committee of arrangements conferring with the Council are as follows: G. N. Kreider, L. C. Taylor, C. M. Bowcock, C. L. Patton and H. T. Morrison.

VARIETIES AND KINDS OF DOCTORS IN ILLINOIS

By the directories there is calculated to be something like ten thousand practitioners of medicine in the State of Illinois, about four thousand being located in Chicago. This gives an ample proportion for the population of the state which is 5,638,591, according to the census of 1910, being one practitioner to every 560 or 570 people. These figures, astounding as they are, are far from correct when we learn that a small army of persons just inside and outside the pale of the law must be figured as gaining a livelihood by treating the ailments of the people.

First and most numerous among these inside the law are the osteopaths, chiropractics, kiro-practics, mechano-therapaths, all of which maintain institutions said to be flourishing, and turning out large numbers of "practitioners," either by actual attendance or by mail, as has been devel-

oped by a communication recently written to THE JOURNAL. Probably a large percentage of these graduates are examined and licensed by the State Board of Health without much inquiry as to where and how they get a diploma.

There are not less than five hundred practitioners of osteopathy, chiropractics, etc., in Illinois, located in the larger centers, and treating a certain number of ailing people. Besides these there are other Chicago schools which are sending out graduates; for example, the McCormick Neurological College, the Oakley College of Naprapathy, the Northern Illinois College of Ophthalmology and Otology, and the Chicago school of Optometric Science and Mental Therapy. These institutions circulate expensive catalogues and are not doing business for fun. Other states refuse entrance to their graduates. As a natural result they must locate in this commonwealth.

Then comes the number, by no means small, of Christian science healers, New Thought practitioners, mentapaths and others of phantastic names, pretending to use no medicine, and ostensibly curing by suggestion. We should estimate these as not less than three hundred.

Another class, by no means small, are the cancer paste people, often found at obscure points, but doing quite a business on persons seemingly unwilling to accept modern methods of treatment. One hundred practitioners of this sort would probably be an underestimate of the actual number.

Another class, quite numerous and culling money from the unfortunate or credulous, is the traveling "specialist," who comes out of Chicago, locates in a country community, and sends out scouts to herald the praises of the "specialist" to chronic sufferers. One of these has recently come to our notice as thus scouting through Champaign County, and said to be doing quite a business of this sort. His name is Dr. Berry S. Henderson. According to our correspondent Henderson, whose Chicago address is 182 State Street, works by traveling through the country. "In some parts of the country he has used an advance agent, who travels from house to house and announces that the 'Doctor' would come the day after. It seems he names a high price for a cure, and then if he is not accepted names a much lower price. He does not advertise in the local papers as far as we know." This sort of a practitioner is quite a little lower in grade than the advertiser who announces his wonderful skill in the local papers, and travels from place to place making his rounds about once a month.

We have yet to mention the advertising practitioner in the larger cities, who is in a way permanently located, but often flies by night to be succeeded by another of his kind supplied from the central headquarters in Chicago. There must be at least one hundred of this sort. Many of these individuals pay a toll of twenty-five or more dollars per month to some one for protection while they pursue their nefarious business without let or hindrance.

Then there is the prescribing, truss-fitting druggist. There are probably one thousand of these in the state who let no opportunity pass of

taking the responsibility of assuming the physician's place, especially in venereal or bowel troubles, and fitting trusses, supporters, suspensories, etc.

When practitioners of all sorts and variety are recognized in the poor old State of Illinois, it will be found that six million people support from fourteen to fifteen thousand persons who make a more or less sufficient living treating their ailments.

THE PROFESSION AND THE ALCOHOL QUESTION

If we are to judge from the papers and reports presented at the meetings during the last sixty years, King Alcohol, alias Demon Rum, does not appear to have had much consideration from members of the Illinois State Medical Society. This may be explained historically. The great Washingtonian movement of 1840 had expended itself by 1850, the date of the formation of the Society. The Society had only gotten fairly under way when the War of the Rebellion broke, and whatever temperance sentiment may have existed thereupon received a great back-set. War above everything leads to intemperance and excess.

No booze, no battle; no rum, no riot; no alcohol, no anarchy seems to be the history of the world. Many men came out of the army confirmed drunkards. The brewer has profited more from the pension money than any other business man.

It goes without contradiction that innocent women suffer more from intemperance than they deserve. In 1873 a movement was started by the ladies which has done more for temperance than any other influence since the beginning of time. The sons of these women are the anti-saloon workers of to-day. Beginning with prayer meetings before and in saloons the women soon got down to a business basis.

Belleville, Illinois, along with St. Louis and Milwaukee, may be considered as nearly exemplifying the German idea in America. Beer is greatly in evidence; its use has been probably excessive in Belleville.

The State Society met at Belleville in 1880, and curiously enough for the first time in its history, the temperance question was presented in a communication from the Women's Christian Temperance Union of that city. A committee was immediately appointed consisting of such distinguished men as Drs. F. B. Haller of Vandalia, Ephraim Ingals of Chicago, and A. T. Darrah, then of Tolono, later of Bloomington. President of the Society and Grand Master of the Masonic Fraternity, who immediately reported in substance that "alcohol was an invaluable therapeutic agent, whose place could not be supplied by any other substance"; that "it should be used only under competent medical advice, when demanded by circumstances of the case, yet no one can more fully realize the injury inflicted by the unadvised and intemperate use of alcoholic drinks than the physician." The committee "would therefore earnestly recommend the exercise of temperance in all things."

The society was evidently not quite satisfied with this report hastily written, and appointed a special committee to report at the next session

on the use and abuse of alcohol in health and disease. This committee was composed of Drs. W. L. Reed of Cerro Gordo, J. T. Curtis of Otterville, and E. Ingals of Chicago. At the next annual meeting held in Chicago it appears that Drs. Curtis and Ingals prepared papers on this subject. Dr. Ingals was the only one present prepared to read his, but the other was, however, printed in the Transactions. When the report of the committee was called for Dr. Ingals apologized for not having a report, and stated that he had hastily written a few pages on the subject, which he then proceeded to read. Without comment these were referred to the committee on publication. The conclusion of Dr. Ingals' paper is very much like that of the committee of the previous year, as follows: "The duty, then, of the medical profession is clear. We should be, as most of us are, unobtrusive, but at the same time, influential advisers of temperance, and in proper cases, of entire abstinence from the use of alcoholic stimulants, and especially should we inculcate this great lesson in the most influential of all methods, by our example. We know how weak man is, and how prone he is to be led into harm by his appetites, and we should warn him of his dangers, and throw around him barriers of protection."

These reports are historically interesting, and we will see from Dr. Johnson's paper how far the medical profession has traveled from the theories of thirty years ago.

Dr. Johnson presents a mass of facts the authenticity of which cannot be questioned, and the importance of which should be fully understood by the profession, and transmitted to the laity. He might have gone still farther and given the evidence of leading physiologists to the effect that alcohol is not a stimulant, but a depressant; not a food, but a poison; not a builder up, but a tearer down of all mental and physical processes. We commend his paper to our readers. Such a paper would not and could not have been written a few years ago. The people as well as the profession have traveled a long way, and will go farther.

DR. STEALY SUPPLIES DEFICIENCY

In our August issue we mentioned the filing of the Transactions of the Illinois State Medical Society and the volumes of the ILLINOIS MEDICAL JOURNAL in the Lincoln Library at Springfield. These were complete or promised, with the exception of the years 1877 and 1878, and we are pleased now to say, that through the generosity of Dr. J. H. Stealy of Freeport, we have obtained the missing transactions, together with files for twenty-four years prior to 1898, which goes a long ways to supply another complete file for use in the office of the editor. We are much gratified to have these volumes at hand, and in behalf of the Society express appreciation to Dr. Stealy for his generosity in this matter. To complete another file of the transactions we need all the volumes prior to 1868, about sixteen in number, and will be glad to hear from any of our readers of where such volumes might be found.

AMERICAN DRUGGISTS' SYNDICATE

This organization, which we have had occasion to mention several times before, has recently organized a propaganda to sell its stock to the medical profession of America. A man named H. Schlesinger, with headquarters in the St. Nicholas Hotel, Springfield, has been sending out attractive literature, making promises of vast profits for those persons subscribing for the stock of this company. We trust that our readers will use the utmost caution in investing in this stock, as from all reports, we believe, its objects are entirely contrary to the code of professional ethics, to say nothing of sound business ethics.

THE AMERICAN COLLEGE OF BACTERIOLOGY AND
PATHOLOGY OF CHICAGO

Under the heading of New Incorporations will be found a new institution said to be educational, of which the incorporators are certain men by the names of O'Conner, Alderson and Forbes. It seems that neither of these parties are registered as physicians in this state. Harry O'Conner is a stenographer in Chicago, and Thomas C. Alderson is a dentist in that city. It would be interesting to know who the incorporators of this institution are, and what its incorporation means.

MONUMENT TO DR. DAWSON

A monument is in the process of building at the cemetery, Wauconda, Ill., to the memory of Dr. Dawson, who was for many years a practitioner in that community, and it seems a character of unusual interest. It seems that he had come as a stranger to Wauconda from the West, and had immediately entered on a large practice, never refusing to go to any one, rich or poor, when called on. After he had been in the community for fifteen years, a lady and her daughter appeared in the town, the mother resembling a photograph which the Doctor for years kept on his office table. There was some mystery about her coming and leaving which was never explained, but added a touch of romance to the career of the Doctor. The following quotations from a write-up in the *Waukegan Daily Sun* will complete the story:

"And after the fair woman and her fairer daughter, both so like the picture that made its appearance on the country doctor's desk, had disappeared, the Book of the Past closed again, its heavy lock was sprung, and none ever more got a glimpse into the Realm of What Was. Only Dr. Dawson, Wauconda, Ill., guardian angel to the sick, the poor, the miserable, drifted back into his old self, and, his nag hitched to a big ramshackle buggy, again rode afar, and wherever he went pain fled, mercy was enthroned, unselfishness smoothed the brow of care, self sacrifice lit a path that must have been dark many's the time.

"So the mystery remains. It wrapped its arms about the old country doctor when he died and went to the grave with him. Soon a granite

weight will imprison it with him. No one cares to solve the secret now. Every one knows it must have been a good and worthy thing that forced Dr. Dawson to begin his life anew. What are the odds, then?

"Grateful patients of Doc Dawson one time bought the worthy physician a new buggy, a \$75 one, complete from stem to gudgeon and even with a new whip, and gave it to him. And Dad will tell the grandeur of the first appearance of the doctor in the new rig, and then of its sudden disappearance.

"'You see, boys, it was this way,' he will say, peeling an apple or mugging the fragrant cider, 'old doc had a game leg — I forgot to tell you about that — and the new buggy didn't provide for that, so doc, he couldn't stretch out his game leg, straight in front of him, like he uster, in the old rig, when he had a soap-box nailed to the buggy box and the bottom of the buggy knocked out. So one day he just took the fine new rig, wuth \$75, and just naturally give it away to some poor cuss that needed it worse. Then he trotted out the old buggy, the one with the soap box, and the first we knew, there was doc drivin' down the street in the old rattletrap, his game leg in the soap box, where he could stretch it out straight again.

"'Good old fellow, doc. Never said no to any man. Always went where he was called and stayed until he did the work. Sort of a guardian angel. Good old doc — I wonder, now, if —'"

AMERICAN LIFE CONVENTION

The Medical Section of the American Life Convention is to hold its annual meeting at the Hotel Schenley at Pittsburgh on September 20, the day before the opening of the convention.

At this meeting some very excellent papers of great interest to medical directors and life insurance examiners will be read, and any medical directors, examiners, actuaries or officers of companies who are interested are cordially invited to attend and to participate in the discussion of the papers.

It is suggested that any that expect to attend make reservation of quarters at the Hotel Schenley at once. If it is found later they are unable to attend the reservations may be cancelled.

The following is the program for the meeting:

1. "The Transmission of Tuberculosis During Fetal Life." Dr. Harold A. Miller, Medical Director, Pittsburgh Life & Trust Company.
Discussion opened by Dr. Victor C. Vaughan, Jr., Associate Medical Director, Michigan State Life Insurance Co.
2. "The Healed Tubercular Lesion from a Life Insurance Standpoint." Dr. Geo. W. Parker, Medical Director, The Peoria Life Insurance Company.
3. "Blood-Pressure." Dr. Henry Wireman Cook, Medical Director, Northwestern National Life Insurance Company.
4. "Nervous Diseases as Applied to Life Insurance." Dr. John S. Turner, Medical Director, Southland Life Insurance Co.

Discussion opened by Dr. J. H. Florence, Medical Director, Great Southern Life Insurance Company, Houston, Texas.

F. L. B. JENNEY, M.D., Secretary Med. Section Am. Life Convention.

Correspondence

EGAN NOT UNDER CIVIL SERVICE LAW

August 5, 1911.

To the Editor:—A few days ago you requested our opinion on the following questions:

“Is James A. Egan secretary of the State Board of Health, within the classified Civil Service of the State of Illinois, under the act of the General Assembly, approved June 10, 1911, in force July 1, 1911, amending ‘An Act to Regulate the Civil Service of the State of Illinois, approved May 11, 1905,’ as amended, etc.”

We have examined the statute of the State of Illinois on this question and are of the opinion that James A. Egan, as secretary of the State Board of Health, does not hold an office within the classified service provided for by the amendment of June 10, 1911.

The amendment of June 10, 1911, provides among other things as follows:

Sec. 3b. All persons who, when this act takes effect, shall hold offices or places of employment other than those exempted in Section 11 of this act, shall be classified under the provision of this act, and shall become members of the classified State Civil Service without original examination.

Sec. 11. All officers elected by the people; all officers, boards and commissioners appointed by the governor subject to confirmation by the Senate; shall not be included in the classified service.

The question then arises whether James A. Egan, secretary of the Board of Health, is a member of a board appointed by the governor, subject to confirmation by the senate, within the meaning of Section 11, above quoted; or, in other words, whether the Statute of this state, creating and establishing a State Board of Health, contemplates that the secretary of the State Board of Health must be elected from among members of the Board of Health.

The State Board of Health was provided for by an act of the General Assembly of this state, entitled “An Act to Create and Establish a Board of Health in the State of Illinois, approved May 28, 1877, in force July 1, 1877,” which provides among other things as follows:

Sec. 1. That the governor, with the advice and consent of the senate, shall appoint seven persons who shall constitute the Board of Health. The persons so appointed shall hold their offices for seven years. . . .

Sec. 10. The first meeting of the board shall be within fifteen days after their appointment, and thereafter in January and June of each year, and at such other times as the board shall deem expedient. They shall choose one of their number president.

Sec. 11. They shall elect a secretary, who shall perform the duties prescribed by the board, and by this Act; he shall receive a salary which shall be fixed by the board; he shall also receive his traveling and other

expenses incurred in the performance of his official duties. *The other members of the board shall receive no compensation for their services,* but their traveling and other expenses while employed on business of the board shall be paid.

Section 11 does not expressly provide that the secretary shall be elected from among the members appointed by the governor, as does Section 10 in relation to the election of the president, but we are of the opinion that the intention of the legislature was that the secretary of the board should be chosen from the members. This is a reasonable inference from the language of Section 11, where provision is made for the election of the secretary and his salary and then the language is used: "The other members of the board shall receive no compensation for their services."

We understand that the legal department of the state has declined to answer this question. Under Section 3 of the Act of June 10, 1911, the Civil Service Commissioners must within six months from July 1, 1911, classify all the offices and places of employment in the state service except as provided in Section 11 of this Act, and it will be necessary for these commissioners to determine whether or not the office in question comes within the classified service. At that time an opinion from the legal department of the state, we presume, will be furnished to these commissioners on this question, and the commissioners will be governed entirely by that opinion.

Yours truly,

CONKLING & IRWIN.

DECADENCE OF SECTARIANISM

To the Editor:—In spite of property complications and other impediments the unification of the medical profession goes on without substantial setbacks. One of the oldest homeopathic colleges in the country announces that it hopes to build a new college based "on the broadest lines of modern scientific medicine," which program is above all fair criticism. But, with dwindling classes and an equipment admittedly inferior to several regular institutions nearby, there seems really no sound reason why the college should exist at all. For economic considerations it were better to unite forces with some of its neighbors. The small grain of homeopathy remaining in the institution might safely be transplanted to any strong regular school without serious danger to the future of progressive medicine. Many homeopaths insist that modern medicine is disguised homeopathy, which, if true, ought to produce feelings of pride rather than resentment against a condition which they have brought about. If homeopathy shall have served its proper reformatory ends, and shall have, in turn, been swallowed up by its own products, it has no cause for humiliation. Certainly science cares nothing for mere names, whereas sectarianism places a name before all things.

As suggested, it would appear that, from motives of pure economy, the homeopaths would turn their ship toward port and steer with the tide whenever possible. It is not only absurd but palpably unjust to ask the

taxpayers of Michigan and Iowa to support costly "Departments of Homeopathy" in their State Universities for the accommodation of a handful of students. Minnesota closed out her homeopathic department a year or more ago. The recent closing of the homeopathic college at Louisville leaves the Southern States without a single institution of the kind. There are rumors afloat that must cause the management of some other institutions serious misgivings.

I believe that nearly all intelligent homeopaths see the fatal drift away from sectarian medicine, and I suggest that, as a sure means of smoothing the way for complete professional unity, homeopathic bodies, as bodies, be invited to attend and take part in all regular medical gatherings. Such a policy would soon make apparent the wasteful folly of maintaining separate organizations to promote the ends of science. Of course, there are irreconcilables in both camps, but they constitute but a fraction of the active professional workers of to-day.

I hope that the officers of the American Medical Association may be induced to give this matter serious thought. There are hundreds of progressive physicians, homeopaths in name only, who would gladly drop a meaningless sectarian title and unite with the general medical profession, provided they are assured of the welcome which I know awaits them.

PHYSICIAN.

DR. METTLER'S PROTEST

July 19, 1911.

To the Editor:—I note the absence of any mention of my paper on Acute Poliomyelitis which was presented by me and discussed by Dr. Grinker, from the official minutes of the Aurora meeting as they appear on page 59 to 62 of the July issue of the ILLINOIS MEDICAL JOURNAL. I presume that this was an oversight.

And now while addressing you, may I not as a member of the State Medical Society, express the desire that as Editor of the JOURNAL, you will use your influential position to help suppress the petty squabbling and political mud slinging that seems to have become all too prominent in our profession of late? One wonders sometimes whether the study and practice of medicine, about which we are supposed to have some exalted ideas, enlarges or diminishes the mental caliber of some men. Cheap slanderous politics is a disgusting thing at all times for sane men to stoop to, but when it breaks out among the followers of a profession, whose past has been so full of honor and distinction, whose chief watchword is scientific truth, and whose aims have always been upward, one must conclude that there have crept into our profession some wretchedly mental, or temperamental misfits. In certain places and under certain conditions we expect childish bickerings and petty strife, as we expect nauseous odors from stagnant cess-pools; but when medical men, to whom the world looks for guidance in regard to that most precious possession this side of the grave, namely, health and happiness, begin scratching and biting one another like Kilkenny cats under the guise of

medical politics, it is high time for our profession to hang its head in shame, and to repudiate such ill-advised individuals. Surely the blot of commercialism will receive a still darker stain if this sort of thing which appeared of late in our high and beloved profession is to be attributed, as some say, to the sharp competition involved in the making of a livelihood today from the practice of medicine. If wild scramble for office, notoriety and a commercial rivalry is the natural outgrowth of organization; if the airing of petty jealousies and the quarrelsome conflicts in the pursuit of gain is to take precedence in the assembly, and in the printed page; if in a word the organization of our profession is to result in the putting into the second place the science, courtesy and charity for which our profession has long been distinguished, and in the setting up of an arena where we can vent our petty spite, play our cheap politics, and exhibit to the eyes of the world all the miserable little follies and meannesses of human nature, then ought we to rue the day that the word organization was ever uttered in connection with our profession. I think I voice the opinion of many of my confrères when I say that we are heartily sick and disgusted with what is sometimes euphoniously denominated nowadays medical politics. If as a profession we have a scientific reputation to maintain and a proper conception of fair play and courtesy, let us in the name of our glorious history, in the name of our honored dead, and in the name of our own self respect repudiate the fellow who for the sake of a pot of pottage forgets all this and breaks all the noble traditions of our calling in his political mad scramble to get more and still more. Let's not banish all idealism, even though we are in the midst of the most wearisomely commonplace materialistic age. I do hope you will, as editor of an influential journal, ignore if you cannot suppress the personalities and squabbles of the small fry in our profession, and devote your pen to the inditing of editorial that will in some measure replace our lost traditions, and pointing to far higher aims than we have lately been following. Like many others with whom I talk, I do hope you will pass by the useless and little bickerings, and will restore the dignity, learning and high idealism that we look for on the editorial page. Believe me,

Yours very respectfully,

L. HARRISON METTLER.

L. HARRISON METTLER, M.D.,
Chicago, Ill.

July 21, 1911.

Dear Dr. Mettler:—I have yours of the 19th inst., regarding the omission of any mention of your paper, and will be glad to at once take up this matter and find out where the error was made, for it was undoubtedly an error. I am very glad for your pertinent remarks on the condition of the medical profession, and request that you permit me to publish the same in the next issue of the JOURNAL. No one appreciates more than I the most disagreeable facts which you bring out, and yet it is quite impossible to ignore, in the editorial page, certain conditions existing in the Illinois State Medical Society, and in the Illinois State Board of

Health at this time. To show that as editor I have not been pushing certain matters to the front, I will say that it is more than ten years since I became convinced of rottenness in the office of the State Board of Health. For several years I stood alone in my belief in this matter, and so strong was the State Board of Health entrenched in the good graces of the profession that beyond casual remarks it did not seem wise to make any reference to the scandalous conditions. Gradually but surely my belief has become general throughout the state, but in the meantime other elements have come to the support of that organization and have combined with it to make our State Medical Society a battle ground for office and preferment instead of an exhibition ground of scientific talk and sanitation. I should only be glad to drop all reference to the last two meetings of the State Medical Society, were it not that it seems to me of vital importance to expose the insurgents who have been and are now trying to control the State Medical Society. If it were possible to have a reorganization of the State Board of Health about three-fourths of the difficulties would be abolished, for it is my belief that most of the trouble at the present time comes from the admission into the medical profession of Illinois by the State Board of Health of men poorly qualified and having no ideas of the ethics of the profession.

One thing more. At the meeting at Aurora it was understood that a desperate fight would be had between the certain elements of the profession and other elements, and those of us supposed to help the better element were told that dire consequences would result if the other element were permitted to predominate. In the face of this condition of affairs which seems to be criticized we were left alone to conduct this contest, and practically no member of the medical profession from Chicago came to the assistance and support of those presumably trying to do the right thing. Now, doctor, this does not seem to be right. If there is any considerable body of men that feels as you do in the city of Chicago they could not do a greater service to the Illinois State Medical Society than to appear at its meetings and make their influence felt among those delegates ignorant of the true state of medical politics or needing the cheering words of some one in whom they have confidence. It will not do for men to stand off and criticize the editor, the officers and delegates of the Illinois State Medical Society. There is a duty for every member of the State Society just as there is a duty for every voter in the State of Illinois to assist in cleaning up those who have brought disgrace on its people and medical profession.

THE EDITOR.

July 29, 1911.

To the Editor:—Your reply to my letter of protest is at hand and I thank you for the same. When writing that letter to you I had no thought of its publication in the JOURNAL, but if you think it will do a particle of good you may go ahead and publish it. Let me assure you, furthermore, that I intended no personal criticism and regret exceedingly if any such interpretation can be put on my words. I intended to appeal

to you to use your influential position, experience and acknowledged ability to stop the petty bickerings that have of late broken forth with unwonted virulence in our local profession, and to indicate that in my judgment one way to stop them would be to utterly ignore them and to keep the pages of the JOURNAL so crowded with high scientific matter that the small medical politician with his love of slander and personalities, and his utter want of scientific worth and profitable production, will not be able to find therein an arena for his miserable nauseating type of activity. Believe me,

Yours very truly, L. HARRISON METTLER.

July 31, 1911.

To the Editor:—I thank you for sending me copies of letters from Dr. Weis and Mr. Whitford. I do not wish to start a tempest in a teapot and so will let the matter drop where it is. Perhaps no individual is directly to blame for the omission of my paper and its discussion from the official reports; but certainly the system is wrong in any scientific (!) society whereby the stenographer is away carefully recording the political squabbling and personal bickerings of one set of men in that society while the scientific work for which the society was presumably established is allowed to go by the wall. This is merely another proof of the need of just such protests and appeal that I voiced in my recent long letter to you. Unless we are careful, the Illinois State Medical Society will fall to the level of a trades union, in which the chief topics of discussion will be "unionism," "wages," "strikes" and "sich like." Thanking you for your courtesy in this matter, believe me,

Yours sincerely,

L. HARRISON METTLER.

WHO GETS THE GRAFT?

August 1, 1911.

To the Editor:—What do you think of Cook County Hospital? This question may be most closely related to the previous discussion. Some time ago a former professor in one of the small medical schools in Chicago told me of certain transactions of his former students. He said that two out of three whom he named to me were decidedly lacking in education; the third might possibly have passed an examination for license. In some way the three got into communication with one J. D. R., and my informant told me that through his influence enlisted by \$200 apiece each got a license to practice in Illinois. Then, on payment of \$200 more to the same man, one of the three got a license in another state. My informant claimed to be well acquainted with the three, and said that he had his information from them. He also told me of two other cases in which money was used to overcome objections of the State Board to license. In one, the payment was to an attorney, who was men-

tioned, or at least the attorney asked for the money. The other case occurred in Springfield. Unfortunately, when I asked for affidavits, my informant stated that affidavits could not be secured because it would jeopardize licenses.

AN ECHO OF THE PERCY REPORT FROM INDIA

AMERICAN CONSULATE GENERAL,
CALCUTTA, INDIA, July 6, 1911.

SUBJECT: REQUIREMENTS LEADING TO THE PRACTICE OF MEDICINE IN THE
UNITED STATES

THE SECRETARY,
Illinois Medical Association,
State of Illinois,
Springfield, Ill., U. S. A.

Sir:—For the information of the Director General of the Indian Medical Service, Government of India, I have to request that you will forward in duplicate copies of the report of the recent Medical Conference which was held in Illinois, to determine the status of various medical schools located in the State of Illinois. I have further to request that you will send me any further printed information that will be useful to the Director General of the Indian Medical Service to determine the requirements of the Examining Board in the State of Illinois, which grants certificates to medical practitioners.

The Government of India is considering the passage of a Medical Registration Act, and desires full information regarding the relative value of medical qualifications, and the conditions of study, examination, etc., required by examining bodies abroad.

Your careful attention to this request will be very much appreciated both by the Director General and by this office. I am, sir,

Very respectfully yours,

CHARLES R. PERRY,
American Vice and Deputy Consul-General.

KAISERLICH DEUTSCHES KONSULAT

GERMAN CONSULATE, CHICAGO, ILL.
122 S. Michigan Blvd., August 7, 1911.

To the Editor:—I beg to ask you to kindly forward to this office a copy of the ILLINOIS MEDICAL JOURNAL of July, 1911, containing the report of the Committee of the Illinois State Medical Society, which was made recently at the meeting in Aurora.

Your costs will be promptly remitted. Best thanks, in advance, for your courtesy.

Yours respectfully,

A. GEISSLER, Imperial German Consul,
By v. Reinitz, Vice Consul.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY

The regular monthly meeting of the Adams County Medical Society was held on July 10th, at the Hotel Quincy. The following members were present: Drs. Knox, Nickerson, Wells, Ball, Center, Austin, Rice, Pearce, Grimes, Ray Mercer, Knapp, Kirk Shawgo, Montgomery, Ericson and Irwin. After the reading of the minutes Dr. D. G. Stine, of Quincy, was unanimously elected to membership.

Special order of business brought up the discussion of the annual outing. A boat ride on the Mississippi had been planned, but the low water made such a trip impossible. It was finally moved and seconded to leave the matter in the hands of the entertainment committee. Every member present enjoyed the luncheon at our new hotel, and wished that more could have partaken of the excellent menu. Adjourned.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, May 24, 1911

In the absence of the president, the secretary called the meeting to order and appointed Dr. Daniel T. Nelson to take the chair. Dr. Adolph Gehrmann read a paper on "Toxins of the Pus Cocci." Dr. D. B. McEachern read a paper on "Some Applications of Physiological Psychology." Dr. Carl G. Swenson read a paper on "Tuberculin in Surgical Tuberculosis. Report on Cases with Cures."

DISCUSSION OF THE PAPER OF DR. GEHRMANN

Dr. Nelson: I was very glad indeed to have the doctor refer to the seton. Some of you younger men perhaps do not know what a seton is. It was a skein of silk the size of my pencil which was introduced with a seton needle furnished by the government, passed under the skin in the lumbar region, tied and left there. It was the duty of the junior surgeon to move the skein every day. It was a *sure cure* for some kinds of lumbago, especially among malingerers in the army. If it did not cure when it was put into one side it was threatened to be put in on the other side, but I have never heard of a case where it was necessary to introduce it on both sides.

DISCUSSION OF THE PAPER OF DR. SWENSON

Evarts A. Graham: Although I have had very little experience with the tuberculin myself, I have made some of the opsonic index determinations for Dr. Swenson. At the time I did this work for him I became impressed with the results he was getting, apparently from these injections. I believe he is right in saying that the tuberculin should be regarded only as an auxiliary to the general surgical treatment. It should by no means be considered an absolute specific and in no one's hands, so far as I know, has it been of value other than as an auxiliary agent.

He neglected to say that the tuberculin he uses is known in ordinary terminology as the tuberculin R, sometimes popularly known as "Koch's New Tuberculin." because it differs from the diagnostic tuberculin. It is practically a detoxic tuberculin. The old has been used, however, in recent years, since the introduction of the new, so that it is difficult to say which is preferable. I think perhaps it is a matter of choice and experience.

Dr. Swenson also stated that he has become convinced that it is wise to control by opsonic determinations, but the man who has probably had more

to do with tuberculin injections than any other one man—Trudeau—says that it is not necessary. Trudeau's technic of governing the injections is as follows: Starting with a small dose, as small, even, as 1/10,000, he watches carefully to see if there is any reaction—rise in temperature, pain around the site of the injection, etc. If there is not he increases, injection by injection, every week or ten days, watching most carefully all the while to keep the amount just below the amount which would cause reaction. He has not made opsonic determinations for years because he considers this method reliable. It is true, however, that Trudeau's cases are largely medical—pulmonary.

It might be interesting to recall that in cases of moderately advanced pulmonary tuberculosis Trudeau states that 18 per cent. more treated with tuberculin have recovered than recovered where they did not have it. This is a startling set of figures and includes a very large number of cases.

Dr. Nelson: These things go along so fast we can hardly keep up with them. It was only in 1881, at the International Medical Congress in London, that Koch's first demonstration of the tubercular bacilli was made to physicians from all parts of the world. Now just see what has been accomplished!

Dr. Oliver Tydings: I must compliment Dr. Swenson upon his report of such excellent results. I think the Society is to be congratulated upon the opportunity of seeing these results. I was very glad indeed to hear Dr. Graham say that so great a man as Trudeau, who has used tuberculin so extensively, did not deem it necessary to use the opsonic index as a guide, because if it was necessary it would limit the very general use of tuberculin.

I began its use before the day of the opsonic index and before the new tuberculin was put upon the market. Dr. Swenson attributes to Wright the use of the new vaccine, and yet it was practically, as Dr. Graham states, by the use of this Tuberculin R he obtained his results. I think Wright began his work in 1902 and the new tuberculin was put upon the market at least fifteen years ago and I have continued to use it ever since. I have used it in pulmonary and all forms of tuberculosis. My work now being confined to the eye, ear, nose and throat, I use it in these conditions, but I would say to any physician, no matter how limited your practice, if you are not using vaccine therapy in tuberculosis you are making a mistake. It is far easier used than many of the things you have to use, and I know whereof I speak, for I was in a general practice as long as it usually falls to the lot of man to practice. I have used tuberculin in all manner of cases, and I will tell you I have never seen any ill results follow the use of tuberculin. I have used it in cases where I would not use it now from the fact that I should not expect any good result from it or anything else.

We know that all lay stress upon not using tuberculin when a patient has fever. If I was going to pass away with tuberculosis within the next few months, and was conscious of it and was running a temperature, I would use tuberculin to control the fever if nothing else, and I say this advisedly from its use in many, many cases of the kind.

You begin with small doses and gradually increase as the doctor has described as Trudeau's method and you will have no trouble. I seldom use it more than twice a week, usually but once, and if I do not get reaction (I do not look for local reaction because when I give a hypodermic I give it in the connective tissue just under the skin, where you will not see a local reaction), if I do not get constitutional disturbance, I repeat it if there is urgent need after three days.

With children I begin with 1/10,000 milligram and usually I am giving 1/1,000 before two months have passed, depending, of course, upon the power of resistance. I have not tested it with the opsonic index and yet I have been as much pleased with tuberculin therapy as any therapeutic agent I have used.

Regular Meeting, May 31, 1911

The meeting was called to order by the President, Dr. Alexander Hugh Ferguson. Dr. Charles M. Robertson read a paper on "Operations for Laryngeal

Growths." Prof. H. J. H. Hoeve of Des Moines read a paper (by invitation) on "The Ante-mortem and Post-mortem Examinations of the Criminal, John Junkins."

DISCUSSION OF THE PAPER OF DR. ROBERTSON

Dr. J. Holinger: Permit me to make a few general remarks. First, Dr. Robertson in his paper puts the responsibility for early diagnosis and operation of growths in the larynx entirely upon the patient, saying that if he does not come to us early enough he is responsible for the ill results which follow. I think the tendency of the profession is more and more opposed to this view, inasmuch as there is no question but that some of these tumors, as well as tumors in other parts of the body, often do not show symptoms in their early stages. The patient often is not responsible and cannot be so held, for he does not know that anything abnormal is going on. Histories of cases are on record showing that when the first symptoms showed the tumor had already gone beyond an operable stage, or, to say the least, made an operation exceedingly dangerous. Of course there are exceptions. However, a tumor may develop in a part of the larynx not essential to speech or breathing, and there is apt to become quite extensive before the patient notices it. Take for example in Morgagni's fossa between the true and the false vocal cords, carcinoma can grow up and down to quite a considerable extent and not cause any symptoms.

Malignant papillomata below the vocal cords which are not very movable, can grow to considerable size. The patient finally comes to the doctor because of a continued hoarseness or some other seemingly small matter, such as his voice not responding to the impulse as it used to do, or the voice not being as clear and open as it used to be. When we look down, we see a lot of cauliflower growth below the vocal cords and almost from the beginning they are inoperable.

I would also differ from the doctor's statement as to recurring papilloma in children. There are any number of cases on record that have been carefully operated on where certainly the last trace and the last bit of papillomata were removed, yet there was recurrence over and over, not alone at the site of the old one, but in other places.

It is not necessarily the fault of the operator when these growths recur, but we have to admit in some patients a tendency of a large part of or the whole of the larynx to the formation of these growths. How we can effectually eradicate them we do not know, but the simple statement, "If papilloma in a child recurs it is the fault of the operator," should not pass unchallenged. Take, for instance, the possible consequences in court. There are so many lawyers ready and willing, in a given case, to start malpractice suits if such an absolute and positive statement is made before the Chicago Medical Society and stands without criticism or question.

Another point I wish to make concerns the malignant tumors, especially carcinoma of the larynx. They belong to the most benign of the carcinomata that we know of in the body. You know the carcinoma that has the least tendency to recurrence and metastasis is carcinoma of the skin, the next in line is the carcinoma of the esophagus, and the next carcinoma of the larynx. Results from its operative removal after several years are very good, and it is immaterial whether we have to take out half the larynx or a still larger part, recurrences are not the rule and metastases appear very late, if at all. The mortality from the operation is high for many reasons, but those who pull through have a good chance to live for many years without recurrence, without metastases. A few years ago in the German Medical Society of Chicago a number of patients were shown on whom partial or total laryngectomy had been performed from three to ten years previously. They were all in good general condition. The increased experience, better technic, rectal anesthesia, etc., will in time lower the mortality of the operation, because it is not the carcinomata that cause the high mortality of the operation, but complications like aspiration pulmonica, trouble with the vagus nerve, etc.

Dr. Oliver Tydings: The only criticism I have to make is exactly in the line of Dr. Holinger's. My experience and observations would lead me to believe that,

however successfully operated on, papilloma will at times recur, not only in the same place, but in other parts.

Again, the doctor speaks of the patient being absolutely in ignorance of certain conditions about the throat which may endanger life and yet he be not conscious of it. It is but a month ago that I had a case come in with carcinoma involving the larynx, in which the condition of the external glands first called the patient's attention to the fact that he was sick. His voice was good and he did not know that there was anything the matter until the external lymphatics became involved. Indeed he was taken with pneumonia after his last visit and died without knowing of it. I had had no opportunity to tell his family of his critical condition. I saw him on Thursday for the last time and he died before the following Monday.

These cases are not comparatively easy to handle, but they are far more easily handled now by the direct method than they were in the years gone by, yet the results of operation on laryngeal growths do not make it the most inviting field for work.

A. H. Ferguson: If you will pardon me for saying a word: It has just occurred to me that the treatment we apply to papilloma of the bladder might be extended to papilloma of the larynx. I have two interesting cases on hand now—one with papilloma of the bladder was operated on by a doctor (I forget his name) in this city four years ago. He remained free from much trouble for three years; then began to pass much urine. Five weeks ago I removed quite a large papilloma. I do not know just how much, but it was quite a bowl full. The bladder was almost entirely filled by the growth and the most malignant external parts had become adherent so that it was traversed in a very large portion by papilloma growth so extensively that I thought it was hopeless, but I took a large abdominal ring and put in to keep it open. Through this we applied the high frequency current. Through the proctoscope you can fairly see it shrivel. It seems to penetrate very deeply and destroy the cells. With this we have practically cleaned it up.

I have now a child with a syphilitic throat that I did a laryngectomy on two months ago with so much closure of the larynx that Dr. Abt passed a tracheal tube. In some way the string was lost, the tube went down and I had to do an operation and remove the tube. In addition to other antisiphilitic treatment I have been using high frequency. When we started if we removed the tube he immediately choked up. Put the current down the trachea and up the larynx and it seemed to dry up the tissue. Now we can leave the tube out for five minutes or so before he has any trouble, and I believe the high frequency has had a good deal to do with clearing it up.

I should also like to impress upon you the usefulness of this current upon papilloma growths in the bladder, and I cannot see how it could have anything but a good effect upon growths of the same character in the larynx.

This is aside from your subject and I apologize for bringing it in, but I thought it might have a thought in it for some of you who are doing this work.

Charles M. Robertson (closing the discussion): I will accept Dr. Holinger's qualification of my statement regarding papilloma. I did not mean to positively say that *every* recurrence was the doctor's fault, but I will reiterate what I did say, that where it comes back, it is *usually* an incomplete operation. There is a case on record in this town in which there was a papilloma of the bladder and a metastasis in the kidney, so papilloma is not always the simple thing we think it is.

I did not state that the patient who came to the doctor was ignorant, but I distinctly stated that many did not come through ignorance or superstition. I do not lay any particular stress upon their being to blame, although it is their misfortune that they do not know and come to the doctor when they should.

I do not think that carcinoma is as benign as Dr. Holinger thinks it is. It has been very malignant and virulent in my experience, and if the external glands are involved it is almost sure to carry the patient off. If it is just starting and affects the superficial structures it is no more than any other tumor; you

remove it and it does not go into the lymphatics, but these are the only ones that get well. The others have a mortality of pretty nearly 100 per cent.

High frequency: The only ones I know of are those used in Paris, and I do not know very much about those except that the voltage is very high, being sometimes two or three thousand, and is put in through the larynx with the idea of charring it. So far as I know no one in this country has used it.

Regular Meeting, June 7, 1911

The meeting was called to order by the President, Dr. Alexander Hugh Ferguson. Dr. Peter Bassoe read a paper on "Hypertrophy of the Entire Left Side of the Body, with Some Features of Infantilism and Acromegaly." Dr. Paul Gronnerud read a paper on "An Extremely Unusual Anomaly of the Kidney and Its Blood Supply." Dr. Daniel A. Webb of Scranton, Pa., (by invitation) read a paper on "Thorough Cleansing versus Stab Wound Drainage in Diffuse Peritonitis Following Appendicitis. Report of Cases."

DISCUSSION OF THE PAPER OF DR. BASSOE

D'Orsey Hecht: I wish to take this opportunity to say a few words in reference to this case simply because my own cases which I had intended to show to-night have not come and I shall therefore not read my paper. My cases resembled this somewhat, but they are dissimilar from the standpoint of pathology inasmuch as one of them was a case of mixed type of infantilism and acromegaly with underlying symptoms and the other was a complete eunuch. These cases are extremely interesting, particularly that phase of them which refers to the congenital factor.

In many of these cases of infantilism and acromegaly it is not a congenital condition, but an acquired condition, one caused by a perversion of one or many of the internal glands of secretion, and for this reason I wished particularly to present my cases and regret that they did not come. I would like to ask the doctor for a word as to the genitalia, potentiality or sexual instinct of this boy, if he has determined anything on that point.

These cases are particularly interesting because they are pointing out the trophic phenomena occurring that are presided over by the endoecal gland. This eunuch presented a very well developed penis, but has no testicles at all and presents a striking perpendicular growth. He has had no sexual instinct whatever and shows some of the anomalies present in this case, but quite different. He also presents phenomena of tremor, focusing of attention, not shown by this case.

This brings very forcibly to our attention the need for studying these cases that appear to be congenital or are acquired that present trophic disturbances and that are put down to internal secretions, under- or over-activity of the glands. I have never seen anything like this before and I think we are deeply indebted to Dr. Bassoe for presenting this to us, and the fact that these cases do exist in literature has been very well presented by him.

Dr. Moyer: The only case of this sort ever presented before this society, so far as I know, was presented by myself nearly twenty years ago. The hypertrophy did not involve the entire half of the body, as this does, but only one limb. As I recall it, the difference in the size of the limbs was about the same as in this boy and he was about the age of this one. This case was a congenital affair. His leg simply did not match the rest of his body. Otherwise he was normal, so there is a parallel in these cases except in the matter of the extent of the hypertrophy. That was the only case of its sort, so far as I know, exhibited in this part of the country.

Peter Bassoe (closing the discussion): Replying to Dr. Hecht, I will say that, as you will see from the photograph, the organs are somewhat small, still hardly pathologically so. As to sexual life, I do not know. I made no attempt to find out.

As to local enlargements of the extremities of one arm, one leg, one, two or more fingers of both hands, there is a very large literature, showing that it is not at all infrequent, and it is often the case that an arm or a leg will be as much as a foot longer than the other. For that kind of local disproportionate growth there are many etiologic factors. In some cases it may be due to amniotic adhesions or nevoid conditions, the latter analogous to the clubbing of the fingers seen in heart disease, causing chronic venous congestion. In cases of emphysema or other obstructive disease of the lungs we sometimes see the enlargements of the extremities similar to that of acromegaly. This is the so-called secondary hyperplastic osteitis or hypertrophic pulmonary osteoarthropathy.

DISCUSSION OF THE PAPER OF DR. GRONNERUD

Dr. Emil Ries: From a developmental standpoint it is interesting to note that practically regularly there is a small artery which originates in the common iliac and runs up on the ureter. If the kidney does not reach its normal position, then that artery could easily supply the whole kidney if it developed at all. At the time this small artery was rediscovered recently surgeons were advised that it was dangerous to separate the ureter above the bifurcation of the iliac on account of this artery. Haller in the eighteenth century described it completely. The artery comes from the common iliac just above the bifurcation and corresponds to the artery which we see supplying the kidney apparently entirely in this specimen.

I should be interested to hear what the doctor can tell us about the adrenal, whether it is on top of the kidney and whether it is supplied by the same artery or whether it was in normal position and had its normal blood supply. If it is more or less independent of the kidney it should have its own blood supply. I should like to be informed as to the relations of the spermatic artery.

Dr. A. H. Ferguson: This is an added evidence of the surgical importance of the situation and blood supply to a kidney. There are a number of cases on record where the only kidney that was present was removed for disease, say for tuberculous disease.

I was guilty of performing such a feat a long time ago. This was before catheterization of the ureter was known. It was before tuberculous disease was as thoroughly known as it is to-day. It was before we used to pass the hand over to the opposite side and explore to see whether another kidney was present before the kidney under our fingers was removed.

This was a large tuberculous kidney. I remember it well and it was the only one she had. It positioned low and normal blood supply was a little high in her (it was from the abdominal aorta), and after the operation the woman lived for ten days. That is remarkable. She lived without secreting any urine whatever and even then she did not die from uremia, but from exhaustion, in a calm sort of way.

This also points out the importance of catheterization and having an *x*-ray picture taken with the stilets in place before a kidney is removed.

We are indebted to Dr. Paul Gronnerud for getting an additional blood supply to the kidney.

Dr. Paul Gronnerud (closing discussion): Regarding Dr. Ries' remarks regarding the suprarenal: they were there, right over the kidney. They were removed when I took the peritonum off. The course of the spermatic artery was not changed, but the suprarenal capsules were down over the kidney where we could see them.

CHICAGO MEDICAL SOCIETY—ENGLEWOOD BRANCH

Most of us are engaged in throwing stones over a wall and then throwing them back again. Come out and hear about The Man with a Hobby. Get one yourself and inject some new energy into your veins.

Do Dollars and Cents represent all that there is in life for you?

PROGRAM, WEDNESDAY, JUNE 7, 1911

DOCTORS' HOBBIES

1. Arts and Crafts Dr. Charles Haddon Parker
2. Out-Door Recreation Arthur G. Bosler
3. Canoe Cruising Guthrie Y. Barber and A. J. Kyle, expert canoeists
4. Northern Exploration and Travel—

Stereopticon Lecture by Dr. Jno. A. Hornsby, late of the U. S. P. H. & M.-H. Service in Alaska.

“The sailor to the sea,
The hunter to the pines,
And sea and pines alike to joy the rover,

The wood smells to the nostrils
Of the lover of the trail,
And hearts to hearts the whole world over.”

Every doctor is cordially invited to be present and enjoy this meeting with us. Come out and relax your tired and worried gray matter.

We are going to have some good stories of travel and adventure; some interesting specimens of handicraft to see and an illustrated lecture that will please you. This is to be the last meeting of the season and your officers and committees will try to see that you are cordially and pleasantly entertained. May we expect you?

THE DOCTOR'S RECREATION

ARTHUR G. BOSLER, M.D.

Our daily duties are as of prose,
Our amusements as of verse;
Pardon the allusion for
I promise to be terse.
The subject is the grandest,
And the best in all creation;
The talk to be, as you will see,
On the doctor's recreation.
Show me the man in this wild world,
With whatever calling blest,
Standing more in need, than the doctor indeed,
Of recreation and a rest.
Great are the responsibilities
In his problems of life and death;
The sorrows of the world are at him hurled,
He can scarcely get his breath.
Indeed, I sometimes estimate,
In the opinion of the laity,
The doctor dear should never hear
Or see the slightest gaiety.
That he for work should be ever ready,
Thinking, as I've a notion,
They've uncovered and discovered
In him perpetual motion.
That any time that they've a mind,
A nickel in the slot,
A ring ding ding, will surely bring
This mortal on the spot.
He's sort of divine, never needing a rest,
They can call him by night and by day;

He should be ever ready, bright and heady,
Never saying a word about pay.
They think, I surmise, do you blame me?
By the way their bills they meet,
The doctor fine is so divine
He doesn't have to eat.
And if hunger e'er confronts him,
Then a pill or two he'll take,
And convert them by some magic pass
Into a sirloin steak.
As though we hadn't trouble enough
With their various aches and ills,
There is more in store, as hinted before,
When we come to collect our bills.
Enough could be said to turn your head,
Of our trials and tribulations,
The question is, getting down to biz,
How about our future vacations?
A vacation every man should have,
As well as an avocation;
Yet some there be, who cannot see
The need of recreation.
It has been said, by a wise old head,
All work and no taste of joy,
Is sure to make, without mistake,
Of Jack a stupid boy.
And if you think you are not like Jack,
Jot down in your minds this wrinkle,
Instead of being simply Jack,
You've been a jackass simple.
You might as well eat the same kind of meat,
Year in, year out through life,
As to treat your mind to the same old grind
Of work and worry and strife.
You'll get an infection, called brain dejection,
And you can't diagnose what ails you,
Everything goes wrong, life is no song,
And trouble galore assails you.
You are tired of life, with its grief and strife,
Your calling the worst in creation;
Don't feel so sad, it's not so bad,
All you need is a good vacation.
Now just the sort or kind of sport,
Is really a personal equation;
Select the kind, that to your mind
Seems best without persuasion.
We might divulge the kind indulged
By members of our own society,
Thus conclusions reach without a breach
Of ethical propriety.
There are two men just south of here,
Their names I have forgotten,
Who recreate by playing golf,
Even though they play it rotten.
They realize the good derived
Of a few hours spent on the links,
It serves to recreate their minds
And clear them of their kinks.

The sociability of the game,
The country auto run,
And then the test, of who drives best
Contributes to the fun.
Their aspirations oft run high,
On champion honors bent;
A little slow, they stand no show
With our expert president.
Our efficient obstetrician,
Who's most always on a job,
Of helping on this mortal sphere,
An Ann, a Jim or Bob.
For welcoming the little ones,
He surely takes the bunting;
And that it may seem like a vacation dream,
He calls it rabbit hunting.
Working hard by night, by day,
As John says with precision,
He's either on an O. B. job,
Or else a circumcision.
And when he could he always would
At recreation take a whirl,
By bringing Smith a bouncing boy,
And Jones a charming girl.
And up to several years ago,
He knew no other pleasure,
Working, working, never shirking,
Giving the fullest measure.
Invited to take, to Hamlin lake,
A trip in quest of fish;
"Its useless," says he, "for as you see
Its much against my wish."
O, hang your wish! Let's go for fish,
Its fine. I say in truth,
While growing old, pray let us hold
Our mirth and spirit of youth.
He went.
The air of purity, gave a feeling of security,
Relieved from cares, on pleasure only bent,
The water's tranquil beauty, it sure becomes a duty
To appreciate these blessings heaven sent.
To-day he is healthier, likewise wealthier,
And he looks a ten years younger,
By angling captivated, he now has cultivated
A most blessed fishing hunger.
Our conservative little surgeon,
Not mentioning any names,
But who enjoys, like most the boys,
The good old White Sox games.
A truly scientific man,
That's why this game he hugs,
In bacteriology priming up
Observing various bugs.
A string of bugs he first observed,
While waiting his ticket to buy,
Its very clear, I've discovered here
A string of the streptococci.
More knowledge to land, from the grand stand
On the neld he casts his eye,

Bugs arranged in bunches like those I see
Certainly are the staphylococci.
Of the lazy bugs and the crazy bugs,
See our baseball bug a'smiling,
The reason is plain, most always the same,
Some lady-bug likely beguiling.
I sincerely hope, the doctor with scope,
Who sees only bugs microscopic,
Will pardon the pun, and join in the fun
Of bugology in baseball topic.
The game is on, Detroit is strong,
Fleet Ty Cobb has his base,
It's very clear, this old reindeer
For second soon will race.
He takes a lead, paying little heed,
But hear the mighty shout,
The ball is whipped to first with speed,
The umpire yells "You're out."
Its nip and tuck, a little luck
Will turn the tide our way,
With three on base, Ping wins the race,
A home run saves the day.
A pastime fine is our baseball nine,
This game played on four bases,
But if you are wise, you will keep your eyes,
Away from the game of four aces.
Our genial pediatric man,
Who mostly treats the babies,
When not engaged with older folks,
Or smiling at the ladies.
Though busy as a bumble bee,
He's bound to have his fun,
With rod and reel and fishing line,
Likewise a double barrel gun.
He surely is a nimrod crafty,
Even though he's not so husky,
They say last summer he landed a hummer
In the form of a sixty-pound musky.
And now he's appointed and duly annointed
To pilot a bunch of the boys;
They leave in a week, this good lake to seek,
Good luck to their true fishing joys.
Our worthy little secretary,
Not to be at all outdone,
Has joined the ranks and now cuts pranks,
With a new but trusty gun.
Late last spring he thought it the thing,
To try both his gun and our luck,
To Clear lake to go, that we might know
The sport of hunting duck.
To test our aim, a bluebill came,
Looking large as a Canada goose,
He caused a flurry and in a hurry
Prematurely we cut loose.
A hundred yards out, we put him to rout,
He made for milder weather,
And as he fled we thought he said,
You never touched a feather.

Never mind a miss in a game like this,
But O! the thrill you feel,
As you spy off in the distance
A brace of greenwing teal.
On, on they come, and now they're here,
You're up. Forgotten is all trouble,
Bang! Bang! It was a lucky shot
To make that handsome double.
And next a lonely mallard drake,
A wise old bird is he,
Circling round and round, ere he'll come down
Even in range of number three.
You hold your breath, as still as death,
Should he see the slightest motion,
He'll say good bye while still on high,
And make as for the ocean.
His wings are set, get him? You bet;
Disappointment—your name is legion,
You intended to shoot, but a slip of the boot,
Net result,—moist gluteal region.
Such oft is the luck while hunting duck,
But excitement it never lacks;
Quit kidding me, look! don't you see
That bunch of canvasbacks?
There off to the right, see the gleam of white
As they turn to make the swing,
O! the ecstasy and expectancy
As you know they are coming in.
A goodly sight as they try to light,
That blind is sure alive,
With a sixteen and a twenty gauge
We cleaned up beauties five.
This royal sport we must cut short.
To-day we've sure been in it;
We better stop ere some game cop
Investigates our limit.
We are still glad that the fun we had,
Ours now in recollection,
And I know to me it will always be
Sweet in its retrospection.
When on some future O. B. case
You are having lots of trouble,
Your load will be lighter, your heart brighter,
Could you think of some greenwing double.
And now doctor dear, I trust it is clear,
As hinted in a general way,
Health compels us, duty tells us
To be happy we must have our play.
Many think, myself among them,
If you want a royal fun,
Get acquainted with sport untainted,
To be had with rod and gun.
A sport sublime, almost divine,
King of all our out-door fun,
Most recreating, health creating.
After all is said and done
Health is the greatest blessing,
Of man and of the nation,

It is often lost just for the cost
Of a few weeks sweet vacation.
This admonition ponder well,
It is you I am well wishing,
Get rod and line, lets have a time,
I say let's go a fishing.

CHICAGO MEDICAL SOCIETY—WEST SIDE BRANCH.

Regular Meeting, June 9, 1911

MEDICAL EDUCATION.

JOHN J. STOLL, M.D.,
CHICAGO, ILL.

There are two standards confronting every medical man, which are so far apart that few of us rarely get the two running smoothly into one channel. The one is the lofty humanitarian spirit which we should of necessity all maintain, and the other one, which is so difficult to harmonize with the first, is the sober, stern fact of commercialism. It is safe to say that we all start out with the laudable ambition of curing human ailments which are classed as diseases, only to find a greater remuneration in relieving humanity of what might better be classed as allied or concomitant conditions. The standard of commercialism is such a powerful lever that the moral or humanitarian standard is frequently overruled, and it is a safe proposition that few practitioners ever will or ever have lived their lives without some contamination.

We all know that conditions are not what they should be and that there is not to-day a single phase of human life which cannot be improved upon. Medicine, to say the least, has kept pace with the advance in any other line. The past twenty-five years have wonderful strides to record, and yet we are not satisfied. This struggle to advance, to replace all the old with the new, precludes any idea of establishing in medicine any one mode of teaching or any one ruling power, which might curtail our advance movements. The only danger in present-day methods is that medicine will ape religion and establish for itself an oligarchy which will be as false a bulwark as is their hierarchy. The church is perfectly willing that anybody should better this world, but you must do it on premises and lines laid down by them. "Here are our premises and conclusions, they are sacred and must not be disturbed; you may go ahead and reform all you wish, but do not disturb our little game." And that is exactly where medicine is drifting to, if left to our teachers.

The education of the public must come through the man who daily comes in actual contact with conditions as they are. With the increase in density of population there is a change, no matter how minute, of actual living conditions. There is a difference in the relation of man to his fellow man. To meet the requirements of these changes, the world needs different premises for ethical, civil and for moral laws. The real advance thought in these lines belongs to medical men, and it is our duty to show the world where and how all walks of life can be elevated to a higher standard and become better. The unorganized masses cannot compete with organized capital, and both of these classes must be brought closer to a more just and equitable standard. From our ranks the leaders in this advance movement must come.

The freely expressed opinion is that everything mentionable is absolutely rotten. Everybody wishes everybody else reformed, and yet everybody wishes to maintain an untenable position. The real evil it is useless to tell to a conglomerate mass. The keynote to the entire affair is perfect organization. Medical men come in actual contact with all classes and as a consequence an actual reform movement which emanates from our ranks will be far reaching. Medical teachings of to-day have not produced nor can they produce a class of practitioners which are as high class and unique in their proficiency as we could wish. The same holds true of all trades, arts and avocations. Because of our dealing

directly with human life, a greater standard of proficiency is required of us than of any other class. When you consider our continuous opportunities, there is no set of men who have maintained higher standards of morality than we have. Considering the material which comes to us, medicine has done exceedingly well. When a man or woman is old enough to select medicine as a profession by choice, they are beyond the age when we should by right question their morals. We have heretofore had an undeniable right to look to an allied profession for a certain standard in that line.

The educational requirement for the study of medicine, if strictly adhered to, will probably pass inspection. The standard of morality and character requirements are simply a farce. The educational requirements are as elastic as are the necessities of the various institutions for the respective tuition and incidental fees. The moral requirements are of necessity very elastic because of the multitudinous standards of morality. What might be a wrong to one person could easily pass for a religious right to another. It is impossible to devise any legislative system to cure society of these evils. The groundwork must be done by evolving the premises for a better religion—one adapted to all climes and all classes. After these present masses get together as a student body there can be no attempt to shape them into anything like harmony. We cannot be expected to either think or do alike and we should therefore be taught more independence in thought and action without condemnation for either.

When a student enters most medical centers, his individual entity is lost in the body politic. His good moral character has been certified to and he must try to smash that record as speedily as possible! One man, who has had ample facilities for knowing, ventured this opinion: "Over 50 per cent. of medical students—and that includes dentists and pharmacists—contract gonorrhea. But there is a good reason for that. They come here strangers and take up with the 'birds' and cheap trash. They do not wash or take care of themselves as they would if they knew someone to put them on the right road. The good coaching spares the remainder." The moral wrong is a dead letter here, because of the prevalence of the opinion that several diseases are a necessary evil and can never be eradicated. My contention is that no teaching extant gives the proper directions to our sexual senses, and right here is where medical education can demonstrate its superiority.

Another proof of elasticity of qualification is illustrated by the following incident. A physician invited a new neighbor to one of the branch meetings. Strolling home after the meeting the following conversation took place:

"Well, doctor, how did you like the program?"

"It was good, but I could not quite get what that one man was talking about. The op—op—something; what was that?"

"You mean the opsonic index?"

"Yes, I guess that was it. I never heard of it before. What does it relate to?"

Here is the question: Is it possible that a recent graduate in medicine has received instruction in what any modern medical school purports to teach and yet that man never heard of the opsonic index? Can you harmonize that with the idea that a state board is absolutely adhering to a common standard with all classes of schools or with all "pathies"? The recent graduate is no better qualified, with all his equipment for the general practice of medicine, than his predecessors. He may have had more scientific lore crammed into him and perhaps has been better coached for internships, medals and state boards, but, on the whole, his proficiency is on a par with former classes. His therapeutics, if anything, are inferior. One reason for this may be due to the taint of commercialism, for it seems perfectly natural that a man with talent in this direction could garner far more gold devising formulas for our pharmaceutical houses than he could in wasting his time as a teacher. Another reason is that modern teachers recite to the student what is done in European clinics and hospitals. Few are talking from the experience of a lifelong practice on this side of the pond.

The unorganized, untutored general public is still afflicted with fraud worship in all walks of life. There are two difficult problems, viz.: to cure the public of its bad habits, and to cure ourselves from catering to their most menial points. One sadly neglected side of medical education is in not teaching students better business methods. Practically each individual is left to drift for himself. Our fee table is about as asinine a thing as could be concocted as far as business is concerned.

If we are ever to assume leadership over the unorganized masses, we must first perfect an organization of our own, which can be copied and followed by others. If all laws concerning public health should be formulated and freely discussed by medical societies, then they would accomplish something. There is too much similarity between the sentiments of the masses and of our own. A man who had done his senior obstetric work at a maternity remarked, "I pulled eighteen kids in fourteen days; now, that's going some." Surely that man's education has not elevated his opinion of motherhood much above the common herd. It is astonishing that not one of the recent critics of medical schools has ever touched upon the obstetric field. Right here lies proof that the glimmer of gold in modern medicine has blinded both teacher and pupil. In some quarters there is a movement on foot to give instruction in obstetrics to midwives and relegate all obstetric work to them.

It is not that commercialism outstrips philanthropy, but there is a lack of educating the student to the possibilities in this line. Woman not only stands the brunt of creation, but perverted religious teachings have misplaced her entire life. It is part of our work to place maternity in its true light. If we are willing to relegate obstetrics to the midwife, then we should be supplemented by a better-minded class of men. In no other work does a practitioner come so closely in contact with the exigencies of real life and with the real traits of humanity as in obstetrics. The masses as well as the medical fraternity are taking a step backwards when they allow this noble work to drift into the hands of midwives. The world must come to learn that the foundation for a better race lies in a carefully guarded and guided childhood. We all seem to be blind to the fact that in our delirious race for gold we are not giving due attention to children.

Another phase of medical education is the evolution of specialist and teacher. No one should be allowed to practice an absolute specialty unless he has followed a general practice for, say, twenty years. The present development of specialist or teacher looks a great deal like selecting as umpire a man who has never played baseball. That we are a poor guide to the public is shown in two things. One is that we are not looked up to for information which should naturally come from us, and the other is the manner in which we allow 606, *et sui generis*, to be advertised through us. If Hot Springs were on the other side of the pond, there would be more Americans attracted hither than were at the coronation. Not until some foreigner tells us the true value of what we have here will it receive its merited attention.

Because of the tireless activities of "the other fellow," no man's medical education can ever be complete. The man who remains isolated does not realize what he actually loses. The membership in all medical societies from branch to A. M. A. represents the best element on earth. If a man is looking for any special or detailed information he would surely be more apt to find it in some section than from any of us general practitioners. The weak point in our present organization is the absolute security of the man who practically isolates himself and of the security of the quack. You have no hold on either and no adequate means of controlling either. Our responsibility and our standing should be regulated by our local branch and not by a state law, which covers all of us with a blanket-like license.

Nobody should receive any license at all. After a man passes through all preliminaries he should register at the branch where he intends to practice. There he should have the benefit of the advice of any or all members on any dubious case. The general society should adopt a standard case book, which

should be subject to inspection. From these all vital statistics should be compiled. We might then ascertain whether those individuals who escape the usual children's diseases are more or less liable to diseases of maturity.

There is to-day no systematic effort to follow any coherent line of investigation. A few men are making a hard, lonesome fight in the right direction. Were we organized as we should be, medical affairs would be under the auspices of medical men. A transfer card would entitle a man to transfer anywhere. After five years of work a man might be issued a certificate covering his standing. It would be rather hard for him to be either drone or quack. The day will come when intelligent men will ask, "What is your standing in your class?" It is my opinion that as a class we who are regarded as general practitioners are more likely to go out of existence than are the men who are forging ahead and are learning a great deal every day by coming in continuous contact with one another. That is where you learn, by social intercourse and not by isolation.

I believe that many valuable data are lost because men neglect to come here and express themselves. We may not be able to institute any startling changes, but the younger men may follow up and work out perhaps a few ideas which you have cherished for a lifetime. Come here and present them. This world is not carried ahead by us old men. It is the young man with his youthful vigor and thirst for advancement who is making the real progress in medical as well as in all other education; not the isolated man. In my lifetime I have a recollection of the first team of horses owned in my home county. I have ridden in that same county in an automobile. In the fall of the year ox teams would come in for miles around to be shod for winter. That same transition from ox team to horseless carriage has been duplicated in many walks of life. Will we, as medical men, be leaders or be ruthlessly swept aside by a wave of progress which is going to wipe out some other profession?

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting of April 17, 1911

DR. H. W. WOODRUFF, presiding.

A CASE OF SYMPATHETIC OPHTHALMITIS FIRST APPEARING FOUR DAYS AFTER REMOVAL OF THE EXCITING EYE, WITH HISTOLOGIC REPORT

Dr. Carroll B. Welton of Peoria reported the case of a carpenter, aged 35 years, who was struck in the left eye by a large nail which penetrated the globe. The iris was prolapsed into the wound, anterior chamber was full of blood, and vitreous was seen at the wound entrance, but only a small quantity had escaped. Vision: finger counting at two feet. Fellow eye normal. Patient refused enucleation. Iris fragments were snipped off. At the end of ten days, wound had closed. Projection at this time was faulty. Vision in fellow eye 20/20 with normal range of accommodation. Advice to have the injured eye removed on account of possibility of sympathetic involvement was finally heeded and the eye removed on the thirtieth day. Fellow eye was normal as to vision and accommodative power.

Four days after enucleation, sympathetic disease manifested itself by slight pain, reduction of vision to 20/40, photophobia and recession of accommodative power at near work. Iris dilated only partially under atropin, media fairly clear. In the chorioid, many nodes of a whitish yellow color were present. Patient immediately put to bed and given sodium salicylate. The next morning, precipitates were present on Descemet's membrane. A mesh of new blood-vessels were present over the surface of the iris. Patient improved under treatment and in ten days salicylates were stopped and he was discharged from hospital three weeks later.

Three months after the time of the injury, vision was 20/20. Histologic examination of the injured eye shows a marked proliferative uveitis of the type described by Fuchs.

Abstracts from the literature of twenty-seven cases of this post-operative type of sympathetic disease were given. Time of onset, in this form of the disease, is within a month following enucleation. Fifty-nine per cent. recovered with normal vision.

From a study of these cases, Dr. Welton concludes that the infectious agent is carried to the fellow eye by the general circulation.

Dr. H. W. Woodruff thought that it might be possible to discover the symptoms of early transference in the sympathizing eye by careful examinations made from day to day so as to be on the alert for the first manifestations of sympathetic trouble developing.

Dr. L. N. Grosvenor suggested that in all such cases it is advisable to keep a record in the nature of a drawing of the fundus. This would offer a very practical and conclusive basis of comparison from time to time in observing such a case.

A CASE PRESENTING SYMPTOMS OF TRACHOMA, VERNAL CATARRH, AND FOLLICULAR CONJUNCTIVITIS

Dr. Clifford E. Smith presented E. S., female, aged 14 years, from the service of Dr. Willis O. Nance at the Eye and Ear Infirmary, who came from Southern Illinois, accompanied by a little sister who gives same history and shows the same findings.

Patient dates her trouble to measles three years ago, but active trouble seems to have developed two months ago. Eyes have smarted more or less, but the lids have never been inflamed or stuck together in the morning. Vision in each eye is 20/20, and neither corneae show any pannus. The conjunctivæ of all four lids and fornices are thickly studded with flat-topped sessile follicles varying from 1 to 2 mm. in diameter. The conjunctiva between the follicles is not infiltrated, the entire area presenting a pinkish-white appearance, rather than one of inflammation. The ocular conjunctiva presents the normal white appearance. There is no drooping of either upper lid.

Summary: 1. In trachoma of this duration, we would expect some pannus, and inasmuch as trachoma is a contagious inflammatory disease, we would expect to find in any case more signs of inflammation with more or less discharge, which is not present here.

2. In vernal catarrh we would expect to find a more milky-white appearance of the conjunctiva. In this case there is a suggestion of the "cobble-stone appearance" described by Fuchs, and we have the history that the present attack came on in the early spring. No eosinophils were found in this case.

3. In follicular conjunctivitis, we often get such an appearance with very few signs of inflammation. As a rule, however, the upper lid conjunctiva is not so extensively involved, and in most cases the duration is shorter.

Dr. T. A. Woodruff was of the opinion that the case was one of trachoma and if it had occurred in private practice would have treated it as such.

Dr. H. W. Woodruff called attention to the facial expression of the patient as being "typically trachomatous," an expression almost always exhibited by a patient who has had trachoma. In all cases of this character laboratory findings are usually negative, therefore it is necessary to take into consideration the clinical manifestations and of these clinical manifestations the ptosis is the distinguishing and almost constant symptom.

Dr. Thomas Faith suggested expression and the subsequent behavior of the lids as a means of differential diagnosis between trachoma and vernal catarrh.

Dr. W. A. Barr said that this patient has a younger sister in Dr. Beard's service at the Illinois Eye and Ear Infirmary, suffering from apparently the same disease. It is evident that more than one member of the family is afflicted with the malady. The indication from the history sheet as well as the clinical picture, is trachoma. The younger sister has been much improved by expression of the granules.

SYMPOSIUM ON DISEASES OF THE NASAL ACCESSORY SINUSES AND
THEIR RELATIONSHIP TO DISEASES OF THE EYE

THE RATIONALE BASED ON SURGICAL PATHOLOGY

Dr. Joseph C. Beck presented this feature of the subject. He said that the pathologic anatomy of the nasal accessory sinuses explains most of the symptoms referred to the eyes and the further study of the surgical pathology can in most instances verify the cause of these symptoms. The positive results from surgical treatment of these accessory cavities is still another proof of the rational relationship that exists between the nose and the eyes.

He referred to the acute fulminant type of sinusitis in which either perforation or thrombosis has taken place with secondary infection of the orbital contents. This condition is most frequently secondary to an acute rhinitis and simple sinusitis, frequently in cases of pre-existing chronic sinus diseases. In cases which have developed in a preexisting chronic sinusitis, one will find chronic granuloma and polypi, or even old necrotic areas.

The bacteriologic examinations of the secretion show many varieties of microorganisms; the staphylococcus, micrococcus catarrhalis, streptococcus, pneumococcus, and bacillus influenza are found. Besides, many of non-pathogenic variety are present.

In chronic forms of sinusitis we find a larger number of ocular symptoms and diseases caused by the said affection, without the patient recognizing that there is anything very much the matter with his nose. In chronic suppurative sinusitis the middle turbinate body is in a true state of hypertrophy. The ethmoidal cells break down easily under the pressure of a curet. The pus is of a thick consistency and may or may not have odor, depending on the extent of retention and bony necrosis; also whether we have the specific microorganism present of fetid ozena.

In chronic non-suppurative sinusitis the middle turbinal is somewhat enlarged, especially anteriorly, and this has often the appearance of a polypus. The bone may be large because of rarefaction, and can easily be cut off or mashed. There are areas of polypoid degeneration on its under or outer surface. When polypi are present, and they are usually present, hidden early, and very manifest later, they are soft and more grayish in appearance. The ethmoidal cells are usually distended with polypi and many partitions are destroyed by pressure. Since the other sinuses, frontal, antrum and sphenoid are seldom opened in this condition, the pathology is not well known, except from post-mortem examination, and then the changes are found practically the same, except not so marked as in the ethmoid. This affection may be called chronic non-suppurative ethmoiditis rather than sinusitis.

These changes will very well explain symptoms of referred irritation in sensory and motor nerves, which cause ocular symptoms. The same is true in the suppurative form, but the pressure is not as great as a rule. Besides, the chronic suppurative process can extend to the orbital structures also by continuity of tissue causing inflammation of the nerves, muscles, etc. Both suppurative and non-suppurative forms will obstruct the circulation and explain symptoms caused by these vascular changes.

ANATOMIC AND PHYSIOLOGIC RELATION BETWEEN THE EYE AND
THE NOSE

Dr. A. H. Andrews discussed the anatomic and physiologic relation between the eye and the nose under four heads. 1. The relation of the orbit to the bony walls of the nose and its accessory cavities. 2. The relation of the optic nerve to the accessory cavities. 3. The relation of the circulation of blood in the orbit and the blood vessels in the nose and accessory cavities. 4. The relation between the nerve supply of the two parts.

The orbit is one-half to three-fourths surrounded by the bony cavities connected with the nose. It is not strange that diseases of these cavities should seriously affect the ocular structures.

The thickness of the bony wall between the orbit and the nasal cavities varies to a considerable extent. There are sometimes dehiscences. The wall may be very thin or the bony plate may be thick and strong. In very thick skulls there seems to be a corresponding thickness of the naso-orbital walls, although exceptions are sometimes seen.

The bony plate lying between the sphenoid cavity and the optic foramen varies in thickness from 0.5 mm. to 2 mm.

The optic nerve lying as it does in close proximity to these cavities is especially liable to become involved. This is in part accounted for by the fact that the so-called optic nerve is not really a nerve at all, but a central inter-cerebral cord (Spalteholz), having coverings the same as the brain and spinal cord. The highly specialized function of third tract makes it more susceptible to disturbing influences around it. The absence of sensation makes disease of this tract insidious.

DIAGNOSIS OF ASSOCIATED DISEASES OF THE EYE AND NASAL ACCESSORY SINUSES

Dr. Frank Brawley declared that the close relation of nasal to ocular disease becomes more apparent as we learn to look for the important diagnostic points.

Asthenopic symptoms due to sinus disease are usually reflex in nature, but may also be due to a toxic process or to stasis in the orbital circulation resulting from the circulatory disturbances within the diseased sinuses.

All varieties of visual field anomalies have been ascribed to sinus disease, but the most valuable findings are central and paracentral scotomata and enlargement of the blind spot.

The eyelids may show edema as a result of frontal or anterior ethmoidal infection and this tends to lessen as drainage is established, being less at night than in the morning.

Van der Hoeve has found enlargement of the blind spot, which he calls peripapillary scotoma, to be one of the earliest symptoms of the disease of the posterior accessory sinuses.

If at the first appearance of the lid edema, the sinuses are investigated and proper drainage established, it would rarely be necessary to do the radical operations about the orbit and the safety of the globe would be assured.

As improvements in diagnostic methods, such as the x-ray and the vacuum apparatus, make early diagnosis of sinus disease possible, we are more frequently detecting its influence upon the ocular structures. We are also finding that the ethmoidal and sphenoidal cells are much more frequently diseased than we formerly believed and that they act much more frequently as the source of the ocular disease than the frontal or maxillary sinuses, which doubtless owe their past prominence in this respect to their greater accessibility.

DISCUSSION ON THE PAPERS OF THE SYMPOSIUM

Dr. Faith recalled a case of non-suppurative sinus disease in a patient, which later became of a suppurative type. The case presented many difficulties in diagnosis. A one-sided orbital cellulitis developed, the globe became infected and eye was later removed. A later examination showed polyp in the nose and frontal sinus. Another case in his experience was diagnosed as a cyst of the lachrymal sac which was later found to be a purulent process communicating with the ethmoidal bulla.

Dr. Lewis asked for information regarding a case of an amblyopic eye. Examination showed diseased tonsils, adenoids and a mucopurulent discharge from the nose. In four or five years, the vision was reduced from 30/40 to 30/100. No fundus lesion or demonstrable ocular involvement. The Doctor desired an opinion as to the possible cause of the reduction of vision.

Dr. H. W. Woodruff reported the case of a patient who consulted a rhinologist who advised operation on the nose for the relief of eye trouble which was an optic neuritis. Later the oculist found astigmatism and this being attended to, the

eye condition cleared up. He found the more difficulty in the recognition and treatment of the non-suppurative conditions than in those of the suppurative variety.

Dr. A. H. Andrews (in closing) said that when a patient has headache, etc., and the fitting of glasses relieves the trouble, the thanks are unreservedly given to the oculist for the relief of the condition, and vice versa, if a rhinologist is consulted for the headache and relief is obtained the rhinologist receives the thanks of the patient. He emphasized the advantages of the pressure test and the use of cocain in the diagnosis of many of the annoying conditions of the nose which might be productive of ocular mischief.

Dr. Jos. Beck, in closing, agreed with Dr. Woodruff that the non-suppurative conditions were the most difficult to diagnose. He emphasized the importance of always examining tissues themselves and usually some changes will be observed. The *x*-ray is of no value in the diagnosis of sphenoidal conditions; the sphenoidal sinus, however, in his experience, has been the most frequent source of trouble.

Dr. Frank Brawley (in closing) called attention to the fact that this class of cases is best treated by those who take into consideration the co-relation of the nose, throat and eye. The study of the fields of vision is essential and of much value in establishing a diagnosis.

WILLIS O. NANCE, Secretary.

Meeting of May 15, 1911

The President, DR. H. W. WOODRUFF, presiding.

THE SURGICAL REMOVAL OF CORNEAL SCARS

Dr. Meyer Wiener, of St. Louis (by invitation) delivered an address on this subject illustrated with lantern slides. He said that a means for the successful removal of corneal opacities has stubbornly resisted the most persistent efforts of scientific ophthalmology. This, in spite of its tremendous significance from a visual, cosmetic, as well as an economic standpoint.

There is no mention in the text books of the surgical removal of scars. A method has been employed by the author which has been successfully tried on various animals and man, which promises much for the future. This consists of making an incision perpendicular to the surface of the cornea along the line of the scar; then cutting from the middle of this line through the scar to be removed. The cornea is then picked up carefully with a sharp hook and dissected away until it can be more firmly grasped with a forceps, it being urged to keep in the same sheath in which we start. It is difficult to gauge the first incision so as to go deep enough and yet not puncture the Descemet's membrane. But this skill is acquired with practice.

The after-care is just as one would treat any corneal wound; the less interference the better. Cleanliness is of paramount importance.

The microscopical specimens showed that the epithelium covers the resected area in from five to seven days. It eventually assumes its normal thickness and appearance. The cornea proper becomes gradually clearer and thicker, although never attaining the normal thickness.

Age seems to have little influence on the result, as in one patient on whom the author operated two years ago at the age of 69 years, the vision was improved from hand movements to ability to count fingers at ten feet, with improvement still continuing.

The photographs presented showed the appearance of rabbits with white scars from cauterization, and pictures taken later after the scar had been resected.

The point especially made prominent was that the operator must keep in the same layer of the cornea in which one starts by virtually peeling it away. The operation is not advised in active corneal infiltrations, but only in persistent corneal scars.

It is a delicate and difficult procedure which only the skilled surgeon should attempt. In selected cases, visual and cosmetic results are obtained which no other methods within our present knowledge can supply.

Dr. Thomas Faith believed that the surgical procedure advocated by Dr. Wiener might change the thickness of the cornea to such a degree that a very annoying irregular astigmatism might possibly result. He felt also that the procedure could hardly commend itself at the present time to ophthalmic surgeons. The work done, however, by Dr. Wiener was a valuable contribution to the subject and he hoped that from it would come results of permanent value.

Dr. Richard J. Tivnen agreed with Dr. Faith's view that an annoying irregular astigmatism of the cornea from Dr. Wiener's procedure might be expected. The operation as described by Dr. Wiener impressed itself as being very technical and one not to be recommended to the average surgeon. The dissection of the opacity without puncturing or injuring Descemet's membrane would seem to him to be exceedingly difficult. Dr. Wiener's observation that the substantia propria regenerate without the formation of scar tissue is a new pathologic observation. The method of Dr. Wiener is certainly a distinct step in advance and deserves a thorough trial.

TWO ADDITIONAL CASES OF IRITIS TREATED WITH SALVARSAN

Dr. Willis O. Nance reported two additional cases of acute iritis which had been treated with 606. The results following the use of the Ehrlich preparation were prompt and positive. In one instance the deep and intense ciliary infection had entirely cleared 48 hours following the injection. In the other, an unusually virulent type with iritic gumma, the patient was practically well so far as appearances indicated, three days after injection. One case was doubly interesting in that the eye that was treated according to the classical mercury and iodid method last fall required four weeks to clear up and at the present time there are positive and pronounced evidences of permanent posterior synechiæ, in contrast to the rapidity with which the symptoms disappeared in the salvarsan-treated eye and the entire absence of any sequelæ.

If further and elaborate clinical experience demonstrates that 606 can be depended upon to produce results in from two to four days as it has in the present cases, or even in two or three times this length of time, it appeared to Dr. Nance that its use would be a marked advance in ocular therapeutics in not only saving the patient days or weeks of suffering and inconvenience, but in preventing the occurrence of permanent and at times serious sequelæ, as posterior synechiæ and chorioidal involvement.

Dr. W. H. Wilder had recently observed a case of syphilitic tarsitis of the upper lid in a young married woman that yielded very promptly to the effect of salvarsan. The lid was much thickened so that it completely covered the eye and seemed to threaten to break down. In addition to the lesion of the lid, there was a large circinate syphilide on the back of the neck extending down onto the right shoulder with raised borders ulcerated in places. The Wassermann test gave a distinctly positive reaction. After one injection of salvarsan, the lesion of the lid disappeared with remarkable rapidity, as did also the lesion on the back of the neck, so that in two weeks the patient was practically well, and the right upper lid showed only a slight thickening.

DIPLO-BACILLARY INFECTIONS OF THE EYE

Dr. Harry S. Gradle gave a short review of the work on the vitality of the Morax-Axenfeld diplo-bacillus in experimental work together with some of his own results. All the work tends to show that the action of zinc sulphate in varying concentration does not actually kill the organisms, although the clinical results from the use of that drug are satisfactory. Silver nitrate in one-tenth per cent. solution accomplishes the result more rapidly.

Anti-bodies against the diplo-bacillus are not produced by the human organism, but are found extensively in the lower animals and increase in them in large amounts by active immunization. This fact is employed in the serum treatment of the chronic conjunctivitis and ulcers caused by the diplo-bacillus. The serum of a rabbit immunized against the organism, is applied locally in the conjunc-

tival sac twice daily for a period of several weeks with very beneficial results. The author cited several cases that had responded well to this form of treatment. The serum therapy is not meant to replace zinc sulphate in those cases that respond to that drug as a specific, but in the few cases that fail to respond at all.

SCLERAL CYST

Dr. H. W. Woodruff presented a case of cyst of the sclera which had followed an operation for pterygium. The operation was that of McReynolds.

Dr. Oliver Tydings believed that while the history of the case would point to the growth being one of cystic nature, yet the appearance would indicate that it was of a solid nature.

Dr. Clark W. Hawley had met with a case similar to that shown by Dr. Woodruff. The patient was a physician operated on at the Post Graduate Hospital. The growth was about one-half as large as the one shown. It disappeared without treatment.

WILLIS O. NANCE, Secretary.

MADISON COUNTY

The Madison County Medical Society met in Granite City on August 4, with Dr. E. C. Ferguson, vice-president, in the chair. Members present: Drs. Pfeifferberger, Luster, Burroughs, Hamm, Harlan, Wilkinson, Hastings, Spitze, Wedig, Theodoroff, Armbruster, Ferguson, Hirsch, Oliver, Johnson, Grayson, Schreifels, Schroeder, R. B. Scott, Binney, Seebold, Lemen, W. T. Davis, J. W. Scott and E. W. Fiegenbaum. Visitors: Drs. Gunn and Boyd, of East St. Louis.

Dr. E. C. Spitze, of Edwardsville, read a paper on "What the General Practitioner Should Know About the Eye," which contained many practical points and much useful information. Dr. Geo. E. Wilkinson, of Alton, led the discussion which soon became general. The program was an interesting one and was highly appreciated by all.

The next meeting will be held in Edwardsville, on September 1, and will be an innovation. The subject will be "Law and Medicine," and it will be presented by leading attorneys of the county, not a doctor appearing on the program.

E. W. FIEGENBAUM, Secretary.

OGLE COUNTY.

The Ogle County Medical Society met in regular session at the Court House, Oregon, Ill., July 19, 1911. The president not being present, vice-president, S. D. Houston of Polo, called the meeting to order. Minutes of the previous meeting were read and approved by the secretary. Report of the treasurer was read and accepted. Members present: Drs. Alrutz, Beveridge, Beard, Brigham, Houston and Kretzinger.

The following officers were duly elected for the ensuing year: President, Dr. S. D. Houston, Polo; vice-president, Dr. L. F. Alrutz, Oregon; secretary-treasurer, Dr. J. T. Kretsinger, Leaf River; delegate to state society, Dr. C. R. Bingham, Rushville; alternate, Dr. L. F. Alrutz, Oregon; censors, Drs. Atkins and Beveridge.

The Board moved that the next meeting be held at Polo. Carried.

No further business to come before the society, the meeting adjourned to meet at Polo, October 18, 1911.

PIKE COUNTY

The Pike County Medical Society held its regular meeting in Pittsfield, July 27, 1911. Members present: Drs. Beavers, Smith, Garrison, Barber, Main, McComas, Shastid, Reynolds, Peacock, McConnell, Lacy, Miller and Duffield.

After reading and approval of the minutes of the previous meeting, the application of Dr. Charles A. Johnson of Barry for membership was unanimously

rejected. There being no further business, Dr. A. E. Taussig of St. Louis read a paper on "Modern Methods in the Treatment of Heart Disease," and gave a demonstration in the use of the sphygmograph, all of which was very interesting and of much benefit to the society. The subject was thoroughly discussed afterwards. Dr. Shastid reported a case of slow pulse followed by insanity. Dr. Garrison reported a case of fast pulse continuing several weeks which finally slowed down after free hemorrhage from the lungs.

Dr. Duffield reported a case of difficult removal of a hard ball pessary that had been worn fourteen months without removal. Deliverance was accomplished with a fetal forceps with much pain and followed by free hemorrhage from laceration. The patient had this introduced to relieve a varicocele, but now prefers to introduce her finger into the vagina, and finds that pressing upward during urination thoroughly empties the bladder, thus preventing any irritation resulting from residual urine being retained. This plan she originated herself, and it is certainly reasonable and commendable. A vote of thanks was tendered Dr. Taussig for his paper.

It was decided to omit our October meeting and give way to the district meeting, which meets here in Pittsfield, October 27, 1911. Society adjourned subject to call of secretary.

H. T. DUFFIELD, Secretary.

ROCK ISLAND COUNTY

The bi-monthly meeting of the Rock Island County Medical Society was held Tuesday evening, June 13, 1911, at the Manufacturers' Hotel, Moline. Minutes of the April meeting were read and approved. The annual (1910-11) reports of the secretary and treasurer were read. The application of Dr. D. B. Freeman of Moline, which was laid over from the last meeting, was presented for action, the committee having reported favorably. After some discussion the application was ordered laid on the table. The resignation of Dr. J. P. McManus, Rock Island, was accepted, the Doctor having located in Iowa. Resignations of Drs. R. C. J. Meyer and F. H. Gardner, Moline, were presented. Action was deferred and the president, Dr. Eddy, was appointed to confer with them. Bills allowed: New Harper Hotel, \$23; flowers for late Dr. J. W. Morgan of Moline, \$5; printing, \$2. A proposition from the Rock Island County druggists for another get-together meeting was ordered tabled. The program of the evening being a memorial to the late Dr. G. G. Craig, Rock Island, was in charge of Drs. C. Bernhardt, J. DeSilva and E. M. Sala. Dr. Sala presided. Remarks were made by Drs. Eyster, Eddy, Sala, Asay, Dunn and Mueller on Dr. Craig's initiative and ability in Sanitary, Health and Medical Organization. The following resolution was then adopted:

WHEREAS, The Supreme Ruler of the Universe has seen fit to remove from our midst the late Dr. G. G. Craig, that we as an expression of respect and appreciation coming from the Rock Island County Medical Society, extend to the family of the deceased Dr. G. G. Craig our sincere sympathy in this hour of bereavement,

WHEREAS, We feel deeply the loss of one who has always been so active in the profession and one who has ever been ready to respond to the many calls of his profession, being in the harness till the last; and

WHEREAS, Dr. Craig did much to make the Rock Island County Medical Society what it is to-day; therefore be it

Resolved, That a copy of these resolutions be spread upon the records of this society and that a copy thereof be sent to the immediate family of the deceased Dr. Craig.

E. M. SALA, M.D.,
C. BERNHARDI, M.D.
JOSEPH DESILVA, M.D.

Committee.

Meeting then adjourned. Present: Drs. Long, Ostrom, Lamping, Chapman, Williams, Rinehart, Johnson, Asay, Love, Sala, Leipold, Snively, Eddy, Souders, Bennett, Dunn, Mueller. Visitor: Dr. C. E. Donahoo, East Moline.

ALBERT N. MUELLER, Secretary.

NEWS OF THE STATE

NEWS

—The State Board of Administration has had drafted the itinerary of a trip to visit the seventy-one sites offered for the new state insane hospital for which \$1,500,000 has been appropriated by the legislature.

—The Chicago Department of Health sent their health exhibit, in charge of Dr. C. St. Clair Drake, to the Canadian National Exposition, held in Toronto August 25 to September 11.

—The Franciscan Sisters' Hospital, Highland, known as St. Joseph's Hospital, closed its doors temporarily, August 9, on account of lack of funds. The Sisters claim that they are obliged to accept a certain percentage of charity patients and that for county patients the hospital receives only 50 cents a day for the first fifteen days and 20 cents a day thereafter.

—The governor has signed the house bill providing for the establishment of a state institution where indigent children under 14 years of age may receive treatment for deformity or injury. It is to be known as the Illinois Surgical Institute and will be located on a site of 160 acres to be donated, and will be under the management of the State Board of Administration. A second bill appropriating \$60,000 for buildings for the new institute and \$15,000 for furnishing and equipment was also signed by the governor.

—Preliminary plans for the new Cook County Hospital have been completed by the county architect. The main portion of the new structure first to be erected will cost between \$2,000,000 and \$3,000,000. It will be nine stories high, 950 feet long and 59 feet wide, fronting on Harrison Street, and will accommodate approximately 1,300 patients. On the ninth floor of the building will be seven operating rooms and two amphitheatres together with the necessary anesthetic and recovery rooms, etc. There will also be four roof-gardens at the disposal of the patients.

—At the annual meeting of the Association of Military Surgeons of the State of Illinois held in connection with the meeting of the National Guard Association, July 29, in Chicago, Brigadier General Charles Adams, surgeon general, was elected president; Major Thomas J. Sullivan, assigned Seventh Infantry, vice-president, and Major Samuel C. Stanton, secretary to surgeon general, secretary and treasurer, all of Chicago. Major Thomas C. McCord, Paris, assigned Fourth Infantry and David W. Rogers, Chicago, chief sanitary officer, and Captain Arthur F. Wilhelmy, assigned Fifth Infantry, presented reports of their respective tours of duty at the maneuver division on the Mexican frontier.

PERSONAL

Dr. L. P. Kuhn of Fairbury has moved to Chicago.

Dr. Glenn Young of Pontiac is attending clinics in Baltimore.

Dr. J. E. Brock of Pontiac has moved to Arkansas City, Kansas.

Dr. and Mrs. Harry D. Ohr, Chicago, have returned from Europe.

Dr. James Mitchell of Pontiac is spending the summer in Europe.

Dr. and Mrs. Wesley J. Woolston, Chicago, have returned from Europe.

Dr. Thomas S. Crow, county physician of Cook County, resigned July 20.

Dr. George S. Chalmers, coroner of Knox County, is reported to be ill with pleurisy.

Dr. Ralph R. Campbell announces his return to Chicago and resumption of practice.

Dr. J. B. Pecival, superintendent of Cook County institutions at Dunning, resigned August 21.

Dr. John A. Pratt, Aurora, has been appointed oculist for the Aurora division of the Burlington system.

Dr. Alexander Hugh Ferguson, Chicago, is reported to be seriously ill with septicemia due to a carbuncle.

Dr. Joseph P. Smyth, Chicago, has been elected high chief medical examiner of the Catholic Order of Foresters.

Dr. George F. Ruppert, Elgin, sustained a painful injury to the right eye while working over an automobile, July 18.

Dr. Harry S. Gradle has been elected professor of ophthalmology in the Chicago Ear, Eye, Nose and Throat Hospital.

Dr. Frank Branen, Chicago, sustained painful injuries August 6 in a collision between an automobile and a street car.

Dr. Charles E. Crawford, Rockford, has been elected grand medical examiner of the Sons of St. George, Illinois jurisdiction.

Dr. Elmer E. Nystrom, assistant physician of Peoria County, who has been dangerously ill with an infection of the ear, is convalescent.

Drs. George A. Torrison, Charles M. McKenna, Truman W. Brophy, Rudolph Beck and Dr. and Mrs. Carl Beck, of Chicago, have sailed for Europe.

On July 9, Dr. and Mrs. F. E. Tulley of Granite City started on their 10,000 mile automobile tour of the West. They expect to be gone several months.

Dr. Charles B. Dirks, a member of the staff of the Kankakee State Hospital, has been appointed assistant superintendent of the Elgin State Hospital.

Dr. James A. Rutledge, Elgin, has been appointed medical director of the Modern Woodmen's Sanatorium, Colorado Springs, and will assume charge after September 1. At present the sanatorium accommodates 180 patients, but when completed the capacity will be 400.

REMOVALS

Dr. L. P. Kuhn of Fairbury, Ill., has removed to Chicago.

Dr. T. J. Hurst has removed from Ewing, Ill., to Carbondale.

Dr. W. O. McBride of Joliet, Ill., has removed to Marinette, Wis.

Dr. Walter C. Jones has removed from Chicago to Evanston, Ill.

Dr. W. C. Ragsdale of Metropolis has removed to Creal Springs, Ill.

Dr. J. E. Brock has removed from Pontiac to Arkansas City, Kan.

Dr. John W. Ovits of Yorkville, Ill., has removed to Plattville, Ill.

Dr. A. D. Miller has removed from Sullivan, Ill., to Harrisburg, Ark.

Dr. James A. Rutledge has removed from Elgin, Ill., to Colorado Springs, Colo.

Dr. Helen Ryerson has removed from Batavia, Ill., to 136 Stevenson Street, Reno, Nev.

Dr. L. S. Dietrich of 3270 North Clark Street, Chicago, has removed to Deer Lodge, Mont.

Dr. S. B. Herdman has resigned as physician to a mining company at Gilbert, Minn., and will locate in Taylorville, Ill.

NEW INCORPORATIONS

—American College of Pathology and Bacteriology, Chicago; educational. Incorporators, Harry L. O'Connor, Thomas F. Alderson, James F. Forbes.

—National Sanitarium and Springs, Freeport; capital \$3,000; maintain and operate a sanitarium; incorporators, G. E. Shoemaker, W. E. Jacobs, D. S. Giserich.

PUBLIC HEALTH

THE DECLINE AND FALL OF THE HOUSE FLY (*Written in Year 2011*). —The *Musca domestica* (or house fly) is generally called by its initial letters, "m. d.," this name being specially appropriate on account of the fact that for many decades the real "M.D.'s" would have starved to death if the flies hadn't made typhoid and other patients for them. The decline and fall of this pestiferous insect dates from the first of the Twentieth Century, when Tanglefoot first came into general use. The death-rate increased about 4 per cent. during the first decade of the Tanglefoot Era. A few years later the Swatsika Club was organized and the fly market took another big slump. The Swatting Period was followed a few years later by the Fly Trap Time and the bugs began to die at an astonishingly rapid rate. The next important step was about the year 1920, when the several states of the Union enforced laws compelling the use of garbage cans with lids on them. This period is known as the Garb Age and during this time the food supply of the insects was practically shut

off. The natural result was high cost of living and millions and millions of the m. d.'s starved to death. The fly race was practically extinct by this time and the government finished the job by passing a law compelling grocers and fruit dealers to keep their produce indoors and either in fly-tight packages or under screens. The *Musca domestica* is no more.—C. H. Gamble in *Galva News*.

WHAT MUST WE DO TO BE SAVED?



The
Slaughter
of Little Babies

In
the City
of Chicago

AMOUNTS TO 6800 YEARLY.

AT LEAST 3500 OF THESE DEATHS
ARE AVOIDABLE.

EDUCATION FOR PREVENTION.

W. H. H. Field
Chicago

Poster issued by the Chicago Department of Health.

MARRIAGES

JOHN LEWIS NEWMAN, M.D., to Miss R. Steph, both of Chicago, July 3.

WILLIAM H. ENOS, M.D., Alton, to Miss Marion McKee, at Alton, July 22.

WESLEY J. WOOLSTON, M.D., to Miss Edna Chappell, both of Chicago, June 28.

LUCIUS C. PARDEE, M.D., Chicago, to Mrs. Anna M. Trumbull, at Old Mission, Mich., July 1.

DEATHS

JAMES W. MCKEE, M.D., Western Reserve University, Cleveland, 1870; University of Wooster, Cleveland, 1872; died at his home in Blue Island, Ill., July 21, aged 66.

CHARLES LANNING, M.D., State University of Iowa, College of Homeopathic Medicine, Iowa City, Iowa, 1885; died at his home in Morrison, Ill., July 5, from cerebral hemorrhage, aged 68.

JAMES EARLY FINLEY, M.D. Medical College of Ohio, Cincinnati, 1864; a native and a life-long resident of Mt. Pleasant, Ohio, died at his home in that village, July 14, aged 74.

DR. FRED R. STONER was found dead at his home in Decatur, Ill., Aug. 18, 1911. Death was caused by the accidental discharge of a gun which he had been cleaning. He was a graduate of Rush Medical College.

JAMES M. FOWLER, M.D. (license, Illinois, years of practice, 1878); a veteran of the Civil War; at one time superintendent of schools of Williamson County, and a member of the legislature; died at his home in Crab Orchard, July 27, aged 65.

DR. JOHN F. MYERS of Petersburg, Ill., died Aug. 19, 1911, at St. John's Hospital, Springfield, Ill., age 73 years. Dr. Myers has been practicing in Petersburg for the last thirty-three years. He was a surgeon in the Confederate Army during the Civil War.

JOHN ALFRED WARREN, M.D., Eclectic Medical Institute, Cincinnati, 1873; a member of the Illinois State Medical Society; a member of the local board of pension examining surgeons of Greenville, and a member of the local board of health; died at his home, July 20, aged 75.

DR. WILLIAM HOPE DAVIS, formerly of Springfield, Ill., died at his home in San Antonio, Texas, Aug. 5, 1911. He was born in Greene County, N. Y., in 1837, and began the practice of medicine in 1857; he is survived by his wife, two sons and two daughters. Burial took place at Springfield, Ill., July 9, 1911.

GEORGE M. HAINES, M.D., College of Physicians and Surgeons, New York City, 1870; a member of the American Medical Association, for thirty-one years a practitioner and once mayor of Durand, Ill., once vice-president of the Winnebago County Medical Society, died in Grand Junction, Colo., July 5, from nephritis, aged 64.

HOOK WUM PHILOSOPHY

Dey says dat Ise a no-'count man. Dey
 says I got no 'scuse
 A-litterin' up de lan'scape, en dey say I
 ain' no use.
 De preacher says dat I's so slow, it
 gwinter come to pass
 I'll be debbil's piece er punk, en las', en
 las', en las'!
 But ef dey lemme 'lone, I ain't a-aus'er-
 in' deir sass.

I *kin* wuk ef I'se a minter. I kin wuk,
 er let it be,
 But I got no call to pester wuk dat
 does n' pester me.
 I been a-watchin' wuk-folks while I'se
 settin' in de sun,
 En de mo' dey wuks, de mo' dey wuks.
 Dey nuvver gits no fun,
 'Caze what 's de use er doin' whut dey
 nuvver does get done?

Dey says I got de hook-wum, en dey
 gwinter fish me out.
 But des yeah hook-wum doctehs ain'
 so suah what dey's about,
 'Caze I know'd a whi' man one day git
 a misery inside,
 En dese yeah hook-wum doctehs tuk en
 cut him froo de hide
 En fished his wurmy outer him, en den
 dat whi' man died.

Whut's dis yeah hook-wum did ter dem?
 Why ain' dey let him be?
 It is n't dem he's eatin; no suh, he's
 a-eatin' me!
 When dese yeah doctehs comes en says
 dey knows a pow'ful lot
 Huccume dis hook-wum in me, en
 a-pintin' at de spot,
 I tels 'em dis yeah hook-wum is de bes'
 frien' dat I got.

I is n' gwine ter chase him out. I ain't
 no such a fool.
 Dey useter wuk me ev'y day des like I
 was a mule,
 But now dey nuvver ax me, 'caze dey
 says I ain' no use;
 Dey says I *cain't* wuk, caze dat wum is
 eatin' all meh juice,
 En ef I lose dat hook-wum, wha' I git
 anudder 'scuse?

—Edmund Vance Cooke.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED AT THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER

VOL. XX

SPRINGFIELD, ILL., OCTOBER, 1911

No. 4

ORIGINAL ARTICLES

CANCER IN DOMESTIC ANIMALS *

MAXIMILIAN HERZOG, M.D.

CHICAGO

Neoplasms are generally divided into so-called benign and malignant tumors. This classification rests largely on a clinical basis, and while convenient, is inaccurate and arbitrary. No tumor is absolutely, but at best only relatively, benign and at all times must be looked on as a pathologic, eventually dangerous, process. Neoplasms which according to their histologic and histogenetic features are most commonly benign, may exhibit malignant properties, and *vice versa*, neoplasms which histologically have all the ear-marks of malignancy may fail to develop their destructive and metastatic tendencies, may become encapsulated, self-limited, and may finally disappear spontaneously. These observations made with reference to tumors in man, are also fully confirmed in the study of tumors of domestic animals. Tumors with manifest malignant properties are popularly generally known as cancers, and indeed, the common malignant and destructive features of such tumors call, within certain boundaries, for collective consideration from a clinical standpoint, and even from that of etiologic research. We have, however, learned to distinguish neoplasms according to their histology and histogenesis and among the malignant tumors we find a certain group which take their origin from epithelial cells and which are known as the cancers proper — the carcinomata. They are defined as atypical epithelial neoplasms. There appears to be little doubt that carcinoma in man is markedly, nay alarmingly, on the increase among the civilized nations of the world. It is true that the figures as furnished by vital statistics must be analyzed critically and that considerable allowance must be made for a more general and a more reliable diagnosis during the last decades when compared with the figures of former times. However, in spite of all this,

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

the best judges are unanimous in their opinion that cancer in man is on the increase. Whether carcinoma and malignant tumors in general are on the increase among domestic animals is a question which cannot be answered properly at this time. I have in vain searched the literature for any reliable collective statistics on this point. However, personal observations have convinced me that malignant tumors in general and carcinomata in particular are much more common among domestic animals than is generally known to the laity and to the medical profession as well.

I have examined microscopically during the last five years many cases of carcinoma in horses, cattle, sheep, swine, dogs and cats. Part of this material came from the surgical clinics of the Chicago Veterinary College, part from post-mortem examinations in animals killed on account of well-advanced inoperable tumors, another portion from accidental discoveries at autopsies and in the dissecting room, and still another portion was made accessible to me through the kindness of Dr. E. L. Day, the pathologist in charge of the Chicago Laboratory of the Bureau of Animal Industry, where a wealth of material not duplicated anywhere in the world is annually received from the stock yards.

Carcinoma as encountered among the domestic animals does not differ histologically or clinically from carcinoma as found in man. In both instances we are dealing with an atypical epithelial neoplasm. The proliferating epithelial cells become anaplastic, they deviate more or less from the type of the mother cells, they invade the connective tissue, first penetrating along the lines of least resistance, that is generally along the lymph clefts, lymph-vessels and lymph-spaces. They first form an everywhere continuous reticulum of cell-bands, strands and masses, they later on may become detached from these continuous masses and then form true closed alveolar nests, surrounded everywhere by connective tissue. Atypical, irregular, assymetric and multipolar karyokinetic figures, giant cells, cell inclusions, are found in the epithelial cells of carcinoma in domestic animals as well as in man. These cells frequently present their normal changes such as keratohyalin and keratin formation or the formation of true colloid material or they may show a metaplasia and assume characters not seen in the normal cells of the same type. Fatty or glycogenic degeneration, myxoid and colloid material are frequently found in carcinoma in the lower animals. Calcareous deposits are, I think, much more frequently found in carcinoma in domestic animals than in man. Another process more frequently encountered in carcinoma in domestic animals is that of ossification. In some cases this appears clearly due to the fact that carcinomata in animals in some locations exhibit an early tendency to invade the bone. Here they produce necrosis and destruction, but the proliferating tumor cells evidently then include small islands of osseous tissue from which osteoplastic processes with new formation of bone start, as indicated by the presence of very numerous osteoblasts.

Such is clearly the *modus operandi* in carcinomata arising from the mucosa of the jaws of dogs and horses, of which I have seen a number of cases. In other cases of carcinoma with osseous tissue found in domestic animals, this mode of bone formation, however, is not evident, and we

here, perhaps, deal with embryonic inclusions of bone tissue and with neoplasms which ought to be designated as primary osteocarcinomata. The reaction of the matrix of connective tissue in which the carcinoma grows may, as in man, be very intense, or it may be very insignificant. We may find a powerful layer of granulation tissue surrounding the advancing epithelial neoplasm or we may encounter an almost complete lack of inflammatory reaction. Metastasis formation in carcinoma of domestic animals follows the same laws as usually observed in man; however, cancers in horses, cattle and dogs may have existed for a comparatively long time without having given rise to daughter tumors. In other words, carcinoma in domestic animals apparently varies much more in its malignancy than it generally does in man. I recall a case of a mammary tumor in a bitch 14 years old. The tumor had existed for several years, it had become encapsulated, and had not, as found at autopsy, given rise to metastases, though histologically it proved to be a typical adenocarcinoma. Another feature in which carcinoma in domestic animals frequently behaves differently from the same kind of neoplasm in man is the following: carcinoma in man generally leads to early regressive changes with necrosis and ulceration. In domestic animals we find carcinomata which attain a large size without showing any necrotic changes. I have seen such cases in horses and dogs; on the other hand, carcinoma in the horse, on the sheath, the penis, the alveolar mucosa of the maxillæ, may early lead to necrosis and ulceration. In domestic animals, as in man, carcinoma frequently develops in certain places of predilection in which there has been a chance for the development of a so-called precancerous state or condition, brought about by long-continued irritation, hyperplastic changes or cicatrix formation. In cattle not infrequently skin cancers start from cicatrices formed after branding. Swine develop carcinoma under the chin in consequence of chafing; in horses we frequently see carcinoma of the sheath (prepuce) and of the glans penis in geldings as well as in stallions. These animals also often have carcinoma of the lips, of the buccal mucosa, the conjunctiva. Cancer of the anus of the dog is frequent, perhaps in consequence of the frequency with which these animals rub this region on the ground. Cancer of the mammary gland of old bitches is very common. Struma colloidea in the dog not infrequently leads to carcinoma of the thyroid, these tumors being generally quite malignant and soon leading to extensive metastasis formation. The examples cited are all examples of external carcinomata, but cancers of the internal organs, while not as frequent as the former, occur in all domestic animals. Interesting neoplasms which are probably still best classified with the carcinomata, though grouped separately, are the hypernephromata. Of these I have seen cases in cattle, sheep and dogs. The classification of these peculiar and interesting tumors, which form their metastases both in man and animals according to the sarcoma type and not as carcinomata almost universally do, has become quite doubtful on account of many conflicting views. Grawitz advanced the hypothesis that these neoplasms are derived from embryonic inclusions of suprarenal tissue. This view has recently been again confirmed by Winkler, who

studied a large number of these neoplasms. Sudeck and Stoerk believe that the so-called Grawitz tumors are renal adenocarcinomata arising from renal epithelium, while Adami thinks that they are of mesothelial origin, i. e., starting from undifferentiated cells of that part of the mesoderm which furnishes the epithelial cells of the Wolffian body and other abdominal structures of mesodermal origin. Wilson somewhat similarly believes that these tumors are the result of the proliferation of islets of renal blastema (nephrogenic tissue) which have persisted in the cortex of the adult kidney. From what I have seen of such tumors in cattle, sheep and the dog, I am still inclined to believe in the correctness of Grawitz's hypothesis, namely that these peculiar tumors are derived from embryonic remnants of suprarenal tissue, and hence ought to be called properly hypernephromata.

Carcinoma in domestic animals, as in man, generally occurs in advanced age and not in youth, and when not removed by an early radical operation, which as in man cannot always be accomplished, finally leads to cachexia and death. Of course, as a rule, spontaneous death is not waited for, but the animal is killed before the tumor has had a chance to bring about the fatal issue.

Of the true etiology of carcinoma in domestic animals we know to-day no more than we know of the same condition in man. True enough, transplantation experiments in animals, provided they are confined to the same species, are frequently, though not always, successful; however, they have not given us any keener insight into the cause of this terrible affection for which in man as in animals, our only reliable weapon, up to date, is the surgeon's knife.

SPECIMENS EXHIBITED

1. Adenocarcinoma, kidney, horse (macroscopic).
2. Adenocarcinoma, kidney, horse (microscopic).
3. Carcinoma, sheath, horse.
4. Carcinoma, sublingual, gland, horse.
5. Cancer, penis, horse.
6. Cancer, penis, horse (epithelial pearls).
7. Flat endothelioma, pleura, horse.
8. Endothelioma, testicle, horse.
9. Carcinoma, vagina, cow.
10. Adenocarcinoma, lung, cattle.
11. Endothelioma, pericardium, cattle.
12. Adenocarcinoma, diaphragm, swine.
13. Adenocarcinoma, metastatic, lymph-gland, hog.
14. Adenoma, Meibomian glands, eyelid, hog.
15. Hypernephroma, sheep.
16. Hypernephroma, sheep, giant cells.
17. Hypernephroma, metastasis, lungs, dog.
18. Hypernephroma, fatty degeneration cells, dog.
19. Carcinoma, mucosa mouth, dog.
20. Adenocarcinoma (colloid), mammary gland, dog.
21. Carcinoma, ear, cat.
22. Adenocarcinoma (bone), mammary gland, cat.

THE PRESENT STATUS OF THE ETIOLOGY OF CANCER *

F. ROBERT ZEIT, M.D.

CHICAGO, ILL.

It is impossible within the narrow limits of a twenty-minutes paper to enter into a thorough discussion of the many hypotheses advanced to discuss the predisposing and exciting causes of cancer. The voluminous literature on the subject indicates that none of the various hypotheses advanced has been proved or the cause of cancer could probably be stated in a line. It is equally evident that successful prophylaxis can only be based on exact knowledge of the etiology of cancer.

In attempting to solve the problem morphologic and clinical methods have been exhausted, but without success. The experiment alone can give us further light. Innumerable attempts, based on the various etiologic theories advanced, have been made to produce cancer experimentally, practically without success. All kinds of stimuli and irritations have been employed without producing cancer. Displacement of normal tissues by transplantation fails to produce cancer.

Experimental study of cancer, although unsuccessful so far in determining the direct or exciting cause of the disease, has done much to clear away faulty etiologic hypotheses and show the promising paths of future experimental investigations. New experiments and methods to pry into the secret of the very cell itself must be thought out. Harrison's new and ingenious method is now being applied to a comparative study of living normal and cancer cells *in vitro* and promises within the near future the greatest advance in the experimental study of cancer.

The unsolved secret as to what makes an epithelial cell a cancer cell or a connective tissue cell a sarcoma cell may yet be disclosed. Are we asking the final question? Are we able experimentally to bring about in a normal cell a disturbance of its metabolism which gives rise to the biologic peculiarities of the cancer cell?

The epithelial cells, having assumed the biologic properties which transform them into cancer cells, represent the "overcells" of the organism, a new race of cells, the survival of the fittest, after a destructive process has disorganized normal tissue or cell groups. This new race of cells has exceptional powers of life and multiplication, at the primary origin of its production as well as at the secondary locations that it reaches by the lymph current. Destructive to its orderly cell neighbors, it lives and multiplies at their expense, monopolizing the nutritional elements of the tissues, where it grows lawlessly, without order and without system of its rapidly proliferating cell offspring. Its growth obeys no laws of organic union of cells, morphologically or functionally. The cancer enlarges only by multiplication of its own race of cells, which penetrate surrounding tissues, destroying its orderly epithelial cell neighbors, and using their stroma and their blood supply. Normal epithelial tissues invaded by

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

cancer cells are destroyed without assuming the biologic characteristics of the invading race of cancer cells.

The current hypotheses on the etiology of cancer may be divided into three principal classes:

1. Parasitic theory: "Cancer is due to a living parasite."
2. Biologic theory: "Cancer is due to a biologic peculiarity of the cells."
3. Chemic theory: "Cancer is due to metabolic disturbances within the cell as a basis for the biologic peculiarities of cancer cells."

The parasitic theory finds but few supporters among pathologists because the nature of the metastases in cancer is a poor argument for a specific cancer parasite. In cancer the metastasis simply represents a growth of transplanted cancer cells, identical histologically with the cells of the primary tumor. The normal epithelium of the organ invaded by these cancer cells is destroyed and never reacts by proliferation. Secondary metastatic carcinomata of the liver show the histology of the primary cancer (stomach, pancreas, gall-bladder, uterus). The liver cells are destroyed and do not react by proliferation. They do not become cancer cells. In infectious processes a reaction of the fixed tissues takes place in response to the bacterial irritation.

None of the many so-called cancer parasites has been demonstrated to produce the atypical epithelial cell proliferation of cancer. Cultures of the various bacteria and blastomycetes obtained from ulcerating carcinomata produce at best only infection granulomata but not cancer, nor are these organisms constantly found in cancer. The same may be said of the recent findings of spirochetes in ulcerating cancers communicating directly or indirectly with the mouth.

Protozoa-like bodies are found within cancer cells at times. Many of these protozoan cancer parasites are in reality atypical mitoses or figures due to retrograde cell processes.

Certain other factors which seem to speak for the parasitic theory of cancer can be explained on other grounds. The statistical increase in the frequency of cancer in civilized countries and the relative infrequency in less civilized countries is only apparent. Improved methods of exact diagnosis, careful registration and the prolongation of life in general due to sanitation, cancer being a disease of advanced age, easily explain the apparent increase of cancer in civilized countries.

Coincidence could explain the cases of cancer *à deux* and *à trois* rather than a direct infection from person to person. A direct infection can certainly not be argued where different types of cancer occur in husband and wife. There is no evidence for direct infection in cancer. The few cases of self inoculation with cancer are all due to accidental implantations of cancer cells in other parts of the body of the same person affected with a primary cancer.

Extensive animal transplantations of series of malignant growths have disclosed many new and interesting facts but have not disclosed the etiology of cancer. Only secondary metastatic tumors are produced in

animals of the same species from transplanted primary growths and shed no new light on the question how the primary race of cancer cells originated because the nature and the possibility of metastasis in human cancers was already well known.

These transplanted rapidly growing animal tumors are of the nature of metastatic tumors only and bear the same relation to the primary growth as do the secondary metastatic human cancers to their primary carcinomatous neoplasm. They simply represent successful metastases of transplanted cancer cells.

To summarize the results of animal experimentation it is known :

1. That absolute failure accompanies any attempt to inoculate animals with malignant tumors from other than the same or nearly related species of animals.

2. The inoculation tumors may grow to such a size as to exceed the weight of the animal.

3. The tumor cells of the successfully transplanted tumors are descendants of the implanted cells and retain the characteristic histology of the primary growth for many generations, as shown by Loeb.

4. Transplantation can be carried on for many generations with increasing virulence.

5. Rapidity of the growth of these transplanted tumors cannot be influenced by mechanical or chemical stimuli.

6. Metastases do not occur ; at least they are extremely rare.

7. In rare cases the transplanted carcinoma stroma may become sarcomatous.

Many biologic theories have been advanced on the basis that cancer is due to some biologic peculiarity of the cells.

Virchow's irritation or mechanical theory considers trauma or long-continued irritation as the cause of this change in the biologic peculiarity of the cells ; but many cases of cancer give no history of trauma and long continued experimental irritation has always failed to produce cancer.

Cohnheim ascribes the biologic peculiarities of the cancer cell to displaced embryonal, supernumerary, unused cells. These fetal dormant cells are by some accessory cause stimulated to unlimited growth.

Ribbert modifies Cohnheim's theory by also including postnatal displacement of cells. A chronic irritation, in Virchow's sense, causes a displacement of cells from their normal organic connection, both embryonal and extra-uterine, at all ages of the individual, and the altered tissue resistance then gives rise to the atypical proliferation of the displaced cells.

Other biologic theories have been advanced to explain the nature of the cancer cells. Hanseemann considers that certain cell races of abnormal properties and increased vegetative activity are produced by anaplasia. Bashford speaks of conjugation of cells, Hauser of new cell races favored by excessive nutrition, Ehrlich of cells with greater avidity.

Various chemic theories have been advanced to explain that the biologic properties of the cancer cell is due to disturbances of the cell

metabolism. Blumenthal has shown that an essential difference exists in the relation of proteids in cancer cells and normal epithelial cells. Cancer cells contain more albumins and less globulins. Cancer cells contain proteids which are absent in normal cells (alanin and glutaminic acid). Cancer cells behave differently toward ferments than normal cells, being more resistant to pepsin and hydrochloric acid and less resistant to trypsin than normal cells. All cells possess an autolytic ferment but cancer cells in addition possess a heterolytic ferment which is capable of dissolving other cells. It may be stated that these chemical differences are not primary changes but must be considered as secondary like the morphologic changes which take place in cancer cells.

Marchand holds that primary degenerative changes within the cell lead to faulty metabolism and that the products of the perverted cell have a toxic action on the cells of their neighborhood, weakening them and thus permitting unrestrained growth.

Oertel and Adami state that the chromatin of the nucleus of the cell is of two orders, one governing the functional activity of the cell, the other the proliferative or vegetative activity. Thus cell races may be developed in which functional activity is lost and vegetative activity is predominant.

All attempts, in the past, experimentally to prove any of the various hypotheses advanced, have failed. A comparative biologic study of normal and cancer cells *in vitro*, which has now become possible by the ingenious method of Harrison, promises the greatest advance in the near future in the experimental study of cancer, and startling results based on an application of this new method to the problem of the cancer cell have just been published by Carrel, Burrows, Lambert and Hanes.

Carrel and Burrows succeeded by Harrison's method in growing small fragments of adult tissue of dogs, cats and frogs in a plasmatic medium of the same animal, observing the growth of the cells microscopically at 37° C. in sealed hollow glass slides. By the same method they were able to cultivate and study the growth of sarcoma cells from a human case and from a very malignant sarcoma of fowl, producing subcultures from the latter. Cultivation of adult tissues and organs of mammals by subcultures are thus possible and afford a new method for the study of human cancer *in vitro*, enabling us to follow all the morphologic characteristic changes of the cancerous and other cells during life. They further found that the plasma of a sarcomatous animal acquires the property of inhibiting the growth of a sarcoma taken from another animal.

Volpino reports a culture *in vitro* of an adenocarcinoma of a mouse on semihardened horse serum medium.

Lambert and Hanes found that the plasma of normal young rats was as good a medium for culture of sarcomatous rat tumors as that of the tumor-bearing animal. Subcultures grew readily when transferred to new plasma. Prolongation of life of tumor cells is dependent on renewal of plasma medium. The plasma of immune animals does not prevent growth. No cytotoxic or cytolytic substances are present in the blood-serum of animals immune to cancer.

Immunity to tumor growth does not correspond, therefore, to any of the types of immunity produced by the reaction of the body to infective organisms and their products.

"Absence of a specific stroma reaction on the part of the host is the cause of the immunity, the implanted cells losing their power of calling forth a stroma reaction."

THE SURGICAL TREATMENT OF CANCER *

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In view of my subject, and twenty minutes for its presentation, this must necessarily be a general paper. After looking over a great deal of modern medical literature on this subject, I see it is impossible for me to express my opinions arrived at from my own personal experience without saying what has already been said and published before by a great many eminent gentlemen all over the world.

When we look at cancer as it is, see the life history of the different forms of the sarcomata and carcinomata, watch them from their incipency to the end of their destructive processes, it does not require very deep thought or special intelligence to know what the right treatment is. The only cure for cancer known to-day is the surgical treatment, except in the most superficial epitheliomata where the *x*-ray in my opinion has come to stay. I have seen two cases of the superficial epitheliomata cured with caustic plasters; one is well six years and there is no sign of recurrence in the other, four years after the wound entirely healed. This form of treatment which is, in my opinion, one of the relics of antiquity, is still submitted to by people above the average intelligence.

Cancer in its beginning is always localized. If that is true (and it is), if every case could be detected in its first stage and the patients would consent to operation at once, there would be no deaths from cancer except in those cases where it is absolutely inaccessible. But, unfortunately, with very few exceptions, it cannot be diagnosticated with certainty in its incipency. I have practiced medicine eleven years and surgery eleven years, and at the end of twenty-two years I am unable to make a positive diagnosis of cancer by palpation, clinical history or any other means prior to operation, unless a microscopical section is taken beforehand, a procedure seldom justifiable because a growth of any kind anywhere is a detriment to the patient and should be removed entire whenever possible, even in cases where the question comes up as to what kind of an operation shall be done—an extensive one which means the removal of all surrounding glands, or a simple one, merely removing the growth. When your examination is completed by a number of carefully prepared sections, the kernel which causes a recurrence may not have been detected. In view of the above facts it is imperative to advise the

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, Ill., May 16-18, 1911.

removal of every growth that can be safely removed as soon as it is discovered, even before it is possible to make a diagnosis, and in the chronic internal ailments which do not respond to medical treatment in the hands of competent men, exploratory operation should be advised. If this were done the number of deaths from cancer would be very materially lessened. Unfortunately, a great many patients with tumors and chronic, internal ailments do not consult a physician until in the last stages of the disease.

I have seen a number of cases of cancer, internal and external, in which the patient experienced no inconvenience until degenerative changes took place and infection followed, when in fact it existed for one or more years. In such cases no one is to blame and nothing can be done. The impression among the public generally is that cancer is excruciatingly painful; the fact is that many of them are painless, which frequently accounts for negligence on the part of the patient. This is especially true in many cases of cancer of the breast. When I look over the literature of cancer of the breast and see the frightful mortality, I become more and more convinced that to advise the removal of every growth or lump in the breast that is not clearly inflammatory is of the utmost importance.

Our experience has been limited to twenty six cases operated on; six of them have died from recurrence, and most of the other cases are too recent to be of value in making any reliable statements. Statistics of value should include only those cases that have been under observation for ten years. One of the best reports I have been able to find was that made by Drs. Greenough, Simons and Barry, at the Massachusetts General Hospital. They kept track of 376 cases for eight years, and reported 20 per cent. of their cases cured. They are now doing more complete operations than at first, and will probably have a much higher percentage of cures in their cases since then. We always do the complete operation in every case by cleaning out thoroughly the axillary and subclavicular spaces, whether the glands are involved or not. It is the general opinion to-day that any operation that does less than this is unjustifiable. We do not do any particular surgeon's operation; we simply make a thorough operation and clean out the gland-bearing tissue. We never operate on the late cases; cases in which there is considerable metastasis. We leave those cases as glaring examples of negligence, of taking the advice of quacks and charlatans. What is true of cancer of the breast is true of cancer anywhere else. If you want to get the highest percentage of cures you must remove the lymphatic glands connecting, whether you think they are involved or not. The two greatest mistakes a surgeon can make are, first, a failure to make a complete operation; and second, to operate on inoperable cases. It is pitiful and mortifying to see these hopeless cases burdened with additional torture to their already sore affliction. Within the last two years three of the most eminent surgeons west of New York City operated on three of my patients that I considered inoperable; all three of these patients died from recurrence. In the minds of the general public and charlatans such work stands as an

insult to injury and stamps the fact in their minds that surgery cannot cure cancer. They point to our most eminent surgeons, and when we say, "Yes, surgery can cure cancer," we are met with the cynical smile of disbelief, and they refuse operation at a time when success would have been almost certain. It is the general opinion of the men who have investigated and made statistical reports that one out of every ten or twelve people who reach the age of 35 years or more die of cancer. It is also conceded and believed quite generally that cancer is on the increase. I believe with Bashford, who said he thought the increase was more apparent than real on account of more reliable statistics. I think it is due also to more thorough and more postoperative and post-mortem microscopic examinations of specimens. I know that since every tumor and specimen removed at the Marietta Phelps Hospital goes to the pathologist in the laboratory, a great many cases have been found to be cancer that before were classed as benign. I am glad to see that the men all over the country who are doing surgery and the medical men also are preparing themselves with modern facilities in the form of properly equipped laboratories with a good man who understands microscopic work in it. If this keeps up, and it will, it will not be many years until enormous statistics can be collected that will be as reliable and comprehensive as any compiled in any other country in the world, and the truth will be more nearly known. When we recognize the common occurrence of cancer, and know that the present mortality can be cut down at least one-half or three-fourths, it is fitting in a paper like this to appeal first to every teacher in every medical college to impress indelibly on the mind of every graduate before he leaves college the importance of early recognition or suspicion of cancer in every case of tumor formation or chronic, internal afflictions in which the diagnosis is not clear, and to advise the removal of every growth regardless of its kind as soon as discovered, provided, first, that the patient's general condition will permit; and second, to make the same appeal to every physician and surgeon practicing to-day, that everyone assist in educating the general public by explaining why so many people die from cancer and why they recur, and that surgery cures cancer practically every time if gotten early enough, provided it is located where it can be removed.

THE DIAGNOSIS OF ACUTE POLIOMYELITIS *

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Notwithstanding the fact that the recent brilliant studies of Flexner, Lewis and others have classified and broadened somewhat our knowledge of the nature of infantile palsy, they have enhanced at the same time the difficulty of diagnosing it, and have opened a wide door for the making of many serious errors.

* Read before the Annual Meeting of the Illinois State Medical Society, held at Aurora, May 16-18, 1911.

It is the purpose of the present paper merely to warn of those difficulties and to suggest the possible lines along which the highest degree of accuracy in diagnosis may be attained.

At the outset let it be recognized that the experimental work so recently performed in the way of establishing the infectious nature of the disease has done nothing more than to confirm what has long been more than suspected on clinical grounds. Though the disease has been transmitted to the monkey and the virus has been carried through a series of twenty or more animals without apparently any diminution of its toxicity, we yet know very little, if anything, of the real nature and mode of action of the infectious material. The twenty odd thousand cases of the malady known to have occurred the last few years, epidemically and otherwise have taught us through their distribution, manner of onset and other general traits much more of the probable contagiousness of the trouble than have the laboratory investigations. It is the exception rather than the rule for more than one child in an immediate family to be attacked. Though Wickmann insists that even the sporadic cases of the Swedish epidemic could be traced to another case when sufficient care in the search was made, Hamilton says that no such success followed the most careful tracings of the disease in the Minnesota epidemic. It is pretty generally agreed that the disease may be carried from one locality to another by a healthy individual. Some experiments seem to point to the nasopharynx as the common threshold of entrance of the virus into the organism. There are other experiments, however, that indicate quite as strongly the gastro-intestinal mucous membrane. So, altogether, we have not advanced very greatly in our knowledge of the contagiousness of the disease or the mode of its conveyance.

As to the pathology of the disease, recent laboratory studies have done little more than to confirm what has been taught by many neurologists for a number of years past; namely, that the essential lesion is vascular and inflammatory, the degeneration of the ganglion cells being mere secondary results, and that the vascular process is not limited to the anterior horns of the cord, but involves more or less the whole cord, its surrounding membranes, the medullary nuclei and in a few instances even some of the cerebral structures.¹ Therefore, it is ignorance or thoughtlessness that prompts the statement lately made before one of the leading societies of the East, that so rapid has been the recent

1. The cause of infantile palsy is, without doubt, some form of *infection*. This is shown by the course of the disease, the circumstances under which it usually occurs, its appearance with other forms of infectious nervous diseases like cerebrospinal meningitis and neuritis, and by the fact that it has been not infrequently observed to occur *epidemically*. Moreover, microorganisms have been introduced experimentally into the bodies of animals and alterations have occurred in the cord that simulated perfectly those of the disease under consideration. * * * Most remarkable and suggestive, however, are the *epidemics* of anterior poliomyelitis that have been reported. * * * The essential lesion in this disease is an *inflammation of vascular origin* in the *anterior gray horns of the spinal cord*, with subsequent *degeneration* and *disappearance of the ganglion cells and their processes*. * * * Most of the earlier examinations of Charcot and others were made in the later stages when the inflammation had long subsided and only the atrophic condition was in evidence, and explain their earlier teaching, now known to be erroneous, that the disease is primarily a parenchymatous inflammation of the ganglion cells of the anterior gray horns. * * * We now know that the disease process is *primarily a vascular inflammation with the atrophic changes occurring as secondary results*. * * * The work of Marie and Goldscheider, Redlich and Simerling seems to intimate that the process is primarily a *general inflammation* of the cord and that, while

progress of our knowledge in regard to this disease that the writers of five years ago are now largely out of date and the standard text-books do not naturally present the latest teachings; or, again, that "the text-books on acute poliomyelitis," written previous to 1907, "should be burned." In thus calling attention to the limitations of our knowledge of infantile paralysis, even at the present moment, when so much brilliant work is being done to solve its etiology and pathology, it is not intended in the least to belittle this work, but rather to check such misleading and unwarranted assertions as I have just quoted.

The one important fact—and one whose importance cannot be overestimated on account of its wide bearings—resulting from the recent studies of Flexner and others, is that the infection lying behind infantile palsy is real, uniform and transmissible. As in the case of other infections, like tuberculosis, syphilis, etc., the anatomical location of the various organic lesions produced by the infection is of much less importance than the toxic condition of the blood, the nature of the toxin and the effect of it on the organism as a whole.

Nosologically the term acute anterior poliomyelitis means very little as compared with some name still to be formulated, that will always indicate the infection as the name tuberculosis does for that particular disease. Other organs, besides the nervous system, are implicated in infantile palsy, showing that the disease is a far more generalized affair than is indicated in the name anterior poliomyelitis. This broader conception of the disease, including as it does a much needed change of name, represents an advance from mere symptomatic to physiopathologic medicine that we see going on in all parts of the clinical field.²

All honor therefore to the laboratory investigators who are laboring so untiringly and successfully to give us broader and more scientifically accurate conceptions of disease!

While, however, to the practical clinician the etiology and pathology of a disease are of the very greatest importance, the diagnostic signs, or indications of its presence, are of the most immediate significance. To him it is of somewhat less moment to discuss the deleterious influences to which any given patient may have been subjected or even to formulate a mental picture of the pathologic changes going on in that patient's organism than it is to recognize accurately the outward indications of those injurious influences and organic changes and their mutual

the entire cross-section is involved, the maximum point of the trouble is located in the anterior horns. An *infection* is the origin of the inflammation. * * * In many cases the adjacent parts of the cord and meninges are softened and congested. * * * Alterations of this same character have been observed in the motor nuclei of the medulla oblongata. * * * When the disease is among the lower medullary nuclei it is known as inferior polioencephalitis; when among the upper, or nuclei of the motoroculi, it is spoken of as superior polioencephalitis (ophthalmoplegia). *Mettler, Diseases of the Nervous System, Cleveland Press. Chicago, 1905, pp. 542-545.*

In view of certain "cerebral cases" being included in Wickmann's accepted classification of the clinical types of epidemic poliomyelitis, it is interesting to recall that Strumpell believed that some forms of postnatal infantile hemiplegia and diplegia were "dependent upon a *polioencephalitis*, an affection analogous to and in the same general category as poliomyelitis." *Mettler, loc. cit., p. 855.*

2. Vide Mettler: *The Newer Neurology, The Medical Fortnightly, May 25, 1906; Clinical Physiopathology; the Need of a New Classification of the Diseases of the Nervous System, Journal A. M. A., Feb. 23, 1907; Neurology, Clinical and Physiological, Clinical Review, December, 1907; The Relative Importance of Symptomatic and Physiological Diagnosis in Neurology, Archives of Diagnosis, January, 1908.*

relationship. In other words he must know what the patient's disease is before he can profitably study its etiology and probable pathology and so institute general therapeutic and prophylactic measures.

This knowledge can be obtained only by a systematic contemplation of the symptoms, individually and in relation to one another, in connection with the disease in the patient under observation. Now the recent studies of acute poliomyelitis have helped us so far very little in this respect. In fact they have added to the difficulties of the diagnosis by including under the same types such as Landry's disease, meningeal, cerebral, neuritic and abortive forms. The laboratory has thus clouded the nice clinical picture which we have heretofore depended on for the diagnosis of infantile palsy without giving us as yet in return any definite criteria whereby we can positively recognize the presence of the specific, so to say poliomyelitic, virus in a classical case of acute anterior poliomyelitis or any of its congeners. Hence even after acknowledging that Landry's paralysis, certain forms of meningitis and multiple neuritis, and even some cases of cortical encephalitis, may all be due to the same agent that produces the classical form of acute anterior poliomyelitis, we are obliged to admit that these various clinical pictures are not necessarily always provoked by the same virus nor always the equivalent of acute anterior poliomyelitis. The old classical type of the disease so far outnumbers all of the others both epidemically and sporadically that, until further definite data for the detection *intra vitam* of the epidemic poliomyelitic virus is forthcoming, we will do well to hold to the long established description of the clinical manifestations of acute anterior poliomyelitis as the basis for diagnosis and to recognize that more or less in all cases and sometimes wholly in a single case the old classical picture of acute anterior poliomyelitis may be varied by the introduction of ascending paralytic, meningeal, cerebral, neuritic and abortive features.

Wickmann tabulates eight clinical types of the disease as follows:

1. Spinal poliomyelitis.
2. Ascending (including Landry's form).
3. Bulbar or pontal (involving the cranial nerves with or without involvement of the extremities).
4. Cerebral or encephalitic.
5. Ataxic.
6. Polyneuritic.
7. Meningitic.
8. Abortive.

As in every *generalized infection* involving the nervous system the clinical exhibitions of infantile palsy separate themselves into two fairly well-defined groups. The earlier group is that of a general toxemia; the later group consists of the localization signs. The first group being general and toxemic, concerns especially the primary functions of the organisms; it is characterized by disturbances of the temperature, pulse, respiration, bowels and other vegetative functions of the body. These symptoms differ in no respect from those of any other form of infection, hence they are of no assistance in making a diagnosis. To fully realize this, one needs only to glance at the following tabulation made by

Lovett of Boston in the 147 cases of infantile paralysis collected by him from Massachusetts in 1909: fever, 132; pain, 110; tenderness, 108; vomiting, 67; constipation, 72; retraction of head, 60; diarrhea, 38; headache, 33; delirium, 15; anorexia, 15; irritability, 24; stupor and restlessness, 14; malaria, 9; nausea, 18; convulsions, 45; twitchings, 3; cough, 8; dyspnea, 4; sore throat, 8; numbness, 3; chills, 2; weakness, 1; coma, 2; abdominal distention, 7; pain in the abdomen, 1; jaundice, 1; vertigo, 2; double vision, 2; difficulty or irritability in swallowing, 4; difficulty in articulation, 2; gastro-intestinal upset, 2; diaphragmatic breathing, 1; coryza, 1; skin eruption, 6. This is surely a formidable list, but without value as a means of diagnosing infantile palsy. If the laboratory does not come to our assistance and furnish us with some specific means of detecting the infection that we now believe causes this disease, and we have none but these symptoms to go by, we will be worse off in diagnosing infantile palsy than in diagnosing the ordinary exanthemata of childhood.

On the other hand it needs to be reiterated that this being the weak point in the recognition of acute infantile palsy and the infection being now recognized as being the most important feature of the trouble, the physician by the same token should be doubly alert in the presence of these very indefinite symptoms. Though the disease is known to occur at any age, it attacks so much more frequently children that when a child complains at the end of an uneventful day of headache with a little stiffness at the back of the neck, with possibly a mild irritation of the upper air passage resembling a coryza or bronchitis, and especially with a sudden rise of temperature and pulse rate together with restlessness, irritability, anorexia, nausea, vomiting, tendency to delirium and convulsions, accompanied by profuse sweating, with marked hyperesthesia and sensitiveness to movement, a lively suspicion should be awakened at once of the possibility of acute poliomyelitis.

It is a very simple matter, but one that is useless, to take a retrospect after a case has sufficiently developed to be positively diagnosed on other grounds as infantile paralysis, and to dub as prodromata such manifestations as indefinite general malaise, slight headache with one or two seizures of vomiting, constipated or loose bowels, indefinite gastro-intestinal disturbances. So far as this affection is concerned such symptoms tell nothing, and are of very little more value as such alleged manifestations as pain and tenderness in one or other of the extremities, resembling intense, shifting, rheumatic-like distress in the joints. The same is to be said of the stupor, the cardiac and respiratory irregularities, the involvement of the rectal and vesical sphincters and the signs of a more or less acute nephritis. They may or may not be present. Writers may go on forever filling their pages with elaborate descriptions of these early manifestations of the general infection, but the practitioner, when face to face with a case, knows only too well how desirable it would be to have at this time at least one characteristic symptom whereon he might at least make a tentative diagnosis. In connection with the Minnesota epidemic Hamilton says that "the clinical signs seen in these epidemics

differed greatly from what are ordinarily looked on as the symptoms of poliomyelitis. In most of the cases without the knowledge that the epidemic was at hand it would have been quite impossible to make the diagnosis before the occurrence of paralysis. In some of the cases the symptoms were very peculiar indeed and at the outset suggested almost anything rather than poliomyelitis.”³

We are told that Lucas has noted a fairly constant lymphocytosis running up to 40 per cent., this being coincident with a fall in the total number of white cells. About this time also there is often observed an increase in the number of cellular elements of the large mononuclear type in the cerebrospinal fluid. Polymorphonuclear cells reappear in the later stages of the disease. Unfortunately, none of these findings are characteristic enough to establish a diagnosis on.

Not until the localization signs, the second group of symptoms, reveal themselves and are recognized through the peculiar characteristics of the paralysis as shown by a thorough analysis of it along well recognized physiologic lines can a positive differentiation of acute poliomyelitis be formulated. Here is where a physiologic diagnosis shows its immense superiority over a mere symptomatic text-book diagnosis, as I have pointed out in detail elsewhere. Indeed, unless physiologic guides be rigidly followed, all sorts of infective processes that reveal themselves through the nervous system are going to be mistaken for acute poliomyelitis and its congeners. This is already beginning to be apparent in general practice, the awakened interest in acute anterior poliomyelitis, accompanied by inadequate knowledge of the anatomy and physiology of the nervous system, especially in its more recent aspects, leading to the diagnosis of this disease in many instances where it does not exist.

The *motor paralysis*, the only symptom to which that much abused term pathognomonic may with any sort of justice be applied, is dominantly of the lower neurone type. This means that it has certain characteristics which distinguish it from all other kinds of palsy. A few cases have been reported in the recent epidemics, in which the paralytic manifestations seemed to point to an involvement of the upper neurones. In these there was a tendency to spasticity with exaggeration of the reflexes. But as these cases were comparatively few in number and as in most of them this peculiar type of paralysis occurred so early in the disease, they may be passed as exceptions to the rule. We may account for most of them on the general basis that they are somehow the results, more or less permanent, of the initial meningitis and general myelitis that appear in nearly all cases of acute poliomyelitis. Notwithstanding the fact that we have at last recognized the disease acute anterior poliomyelitis as one of a general vascular character, with an incipient pathology involving the meninges, cord, brain and medulla, the seemingly selective action of the infection is sooner or later made known by the brunt of the damage falling upon the neurones of the lower motor segment.

3. Hamilton : Epidemic Anterior Poliomyelitis, The Northern Lancet, Oct. 1, 1909.

Recalling for a moment the physiology of the lower motor neurones—those neurones whose cell-bodies lie embedded in the anterior horns and medullary nuclei of the cerebrospinal axis and whose axones pass out by way of the anterior spinal roots and motor constituents of the various cranial nerves to terminate in individual muscles—it will be readily understood how these neurones, when damaged, produce *functional inability* and *wasting* in the muscular part of the neuromuscular apparatus. In the beginning of acute poliomyelitis this functional inactivity of the muscles is rendered so extensive by the edema and extravasation in and around the gray matter of the cord. As the latter subside, however, some of the neurones obviously recover their functional integrity, while others remain permanently damaged. This explains the first great characteristic of the dominant form of paralysis in this disease, helping to differentiate it from other forms of paralysis. *The paralysis attacks individual muscles and is followed by a marked atrophy of those same muscles.* Sometimes death occurs before the appearance of the atrophy, as when the disease is of the Landry type or so-called rapidly ascending type, or when it attacks some of the medullary nuclei involving the cardiac and respiratory functions. Yet even in these fulminant cases the characteristic picking out of individual muscles is more or less noticeable. Cerebral and neuritic palsies do not exhibit this peculiarity because the cortical neurones do not control muscles, but movements in which a number of muscles work more or less co-ordinately together and because the peripheral nerves are each more or less connected with several muscles.

Again, in acute poliomyelitis the very nature of the lesion, vascular and inflammatory, accounts not only for the remarkable recession of the paralysis from its initial wide distribution, but it also makes plain why ultimately it remains scattered in such a bizarre way about the body, as, for example, the thigh of one leg and the arm of the opposite side.

And finally, the lower motor neurones with their related muscles being looked upon as integral physiologic units, it is easy to comprehend how, when the neural end of this neuromuscular apparatus is damaged, the paralysis is of the flaccid sort, the muscles are wasted, the associated reflexes are diminished or lost, the electrical changes are clear and positive and the objective sensory manifestations remain normal. The terminal deformities and contractures result as a matter of course from the disproportionate activity between antagonistic damaged and undamaged muscles. Such is the clinical picture, unique, clear and pronounced, of the dominant type of acute poliomyelitis.

Much space might here be consumed in naming the different muscles and the many combinations that may be implicated in different cases and a long essay might be written in describing the possible deformities and atrophic appearances that the patient shows. Every muscle of the body is liable to the disease, but the manner of the implication is the same in all. Hence in the making of the diagnosis it is of less importance

to note *what* muscles are affected than it is to observe *how* they are affected, and how they individually respond to certain accredited tests.

A few years ago I wrote, "There are no sensory symptoms that belong to this disease. Sometimes in the beginning there are dull pains of a rheumatoid character in the muscles. If these pains become severe or the muscles are unusually tender on pressure, there is probably some degree of peripheral neuritis with the poliomyelitis." The statement is true to-day, excepting that as the emphasis is now laid on the infection as the disease and not merely on its objective clinical manifestations, we attribute these sensory disturbances to the meningitis and neuritis that are provoked by the same agent that sets up the anterior cornual inflammation. In like manner some of the cerebral and neuritic palsies that were wont to be regarded as rare complications of acute anterior poliomyelitis are now admitted as possible manifestations of the latter disease because it is believed upon much laboratory evidence that the same microorganism is the primary cause of all forms. And to-day it is not of such great consequence whether we call the case spastic cerebral palsy, flaccid spinal palsy, neuritic palsy, or even meningitis, so long as we recognize that behind them all lurks the same specific poison, the infection that we now identify with the classical acute anterior poliomyelitis. And yet we venture to suggest that, notwithstanding this fact, the lower motor neurone type of paralysis, the flaccid spinal type, is so dominant and so far outnumbers all other types in epidemic infantile palsy that for the present we may still cling to the classical picture of acute anterior poliomyelitis as representing more or less typically the clinical presentation of the malady.

A few clinical differentiations, though less sharp than we were wont to hold them, before we had adopted the infection lying behind acute poliomyelitis as the real disease, may still be profitably remembered.

In *hemorrhage of the cord* and *acute myelitis* there are very prominent sensory symptoms as a rule. The reflexes are exaggerated (except when the damage is in the lumbar region.) The sphincters are decidedly involved and bed-sores tend to appear early. Paraplegia is the typical form of paralysis. Hemorrhage, of course, is sudden and does not occur often without trauma. Myelitis is slower in its onset and longer in duration. Its paralysis does not recede as in acute poliomyelitis and remain permanently in particular muscles. In this connection, however, it must not be forgotten that the earliest symptoms of infantile palsy are quite indicative of a transverse myelitis even to the weakening of the sphincters.

A point well noted by Oppenheim is that *acute rachitis*, *coxitis* and *osteomyelitis* are all to be distinguished from the early stage of poliomyelitis by the resistance which the child offers in the former when passive movement is attempted. The little patient contracts and holds his muscles in a state of rigidity to avoid the pain of movement in the former, while in the latter he merely complains of the pain.

Syphilitic pseudoparalysis can now be established diagnostically by a blood test. Moreover, there are other marked indications of the specific infection beside the character and distribution of its paralyses.

Epidemic cerebral palsy is sufficiently infrequent to warrant an attempt at a differential diagnosis between it as a mere phase of epidemic acute poliomyelitis and the ordinary type. The latter comes on more abruptly as a rule, is more distinctly hemiplegic in character and distribution, and is accompanied by a positive rigidity and exaltation of the reflexes. There is mental depression of a profound sort, and stupor, while a series of facial or Jacksonian convulsions may occur. Of course, all of these manifestations may be seen in a rare case of epidemic poliomyelitis because it is now acknowledged that the same infection attacks the brain that produces the spinal form of the palsy. And yet in the epidemic disease, even when of the cerebral type, the paralysis will sometimes appear in this or that muscle to indicate that the lower motor neurone has been attacked along with the cortical neurone, thus demonstrating that the trouble is not so definitely hemiplegic in character and distribution. In other words, the ordinary cerebral palsies are more or less decidedly and only cerebral in their clinical appearances, whereas the epidemic cerebral palsies have associated with them some evidence of spinal or neuritic involvement also. The pathogenesis of epidemic infantile palsy, even of the cerebral type, is a much more diffuse process than is that which lies behind the ordinary cerebral palsies.

The so-called *birth palsies*, though liable to cause some confusion by reason of the paralysis being of the flaccid degenerative type, can usually be differentiated on the ground that they occur only in the arm and are plainly more or less the result of trauma.

Progressive muscular atrophy rarely occurs in children. Furthermore, it is very gradual in its onset, slow and steady in its march and is devoid of all febrile and sensory phenomena.

Peripheral neuritis, and especially *multiple neuritis*, are exceedingly rare in childhood. Their onset is gradual and they are marked by pain and tenderness with slight or no febrile movement. When fever is present it lasts longer than the fever of poliomyelitis. There is a history of trauma, of metallic intoxication, of syphilis or general cachexia. The paralysis is slower in coming on than in poliomyelitis, and it assumes more of the bilateral type in multiple neuritis and of the monoplegic type in simple neuritis. The atrophy is not quite so pronounced and it is more tardy in appearing than it is in the spinal trouble. Moreover, there is not the same implication of the skin and nails in the poliomyelitis and the latter is not accompanied by such vasomotor disturbances as edema. And yet it must be frankly admitted that often the etiology alone distinguishes for the practitioner acute anterior poliomyelitis from general neuritis and that when both sets of symptoms happen to depend upon the same infectious agent, the differentiation clinically between the two maladies becomes almost impossible.

MEDICAL SERVICE OF THE STATE HOSPITALS *

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WATERTOWN, ILL.

In presenting this subject, the writer is in part very possibly actuated by a mild resentment of the imputation that the physician in the state service is there because he wants an easy berth, or has not the initiative to secure success in general practice. Aside from this desire, however, he is anxious to impress upon the profession of the state the fact that your institutions for the insane have truly become hospitals—because in them your mentally sick are being cared for in a scientific way—not ideally, I grant, but creditably at least.

Not five years ago the medical service of our state hospitals was still in the grip of the custodial idea. The patient was committed to its care and it kept him. A few meager notes were recorded from time to time to supplement an initial history that was about as exhaustive a study of his aberration as the comments of the sheriff who brought him. For example: In one institution there are hundreds of case records in the form of very small leaflets bearing a few “yeses” and “noes” on each of their four or five blank-form pages, with perhaps a brief notation at the close—to justify the diagnosis—stating that the patient “believes his bowels are destroyed and refuses to eat,” or that he “sees devils but does not seem to fear them.” Those who wrote these histories doubtless knew much more about their patients than they told, but their records are almost valueless.

In contrast to this, I regret that I cannot exhibit an average case history of the present day, with its carefully recorded inquiries into physical and mental conditions, covering in all from a dozen to three dozen large, typewritten sheets and closing with a verbatim report of the discussion of the case when presented before the staff, often supplemented by sleep and temperature charts, and always by more or less detailed progress notes added as frequently as seems necessary. Even the value of such histories naturally varies with the insight and care of the examiner, but comparatively few escape containing enough facts to be of great value in the event of subsequent interesting developments, and many go far beyond this minimum. Permit me to say something about the making of these records.

Upon the physical examination, I will not dilate. It extends from the crown of the head to the sole of the feet, may include pulse tracings, blood pressure estimations, examinations of the ocular fundi, body fluids, etc., and is completed by a painstaking neurological investigation. Spinal puncture has become a matter of routine in two or three of our hospitals—routine, that is, in suspected cases—and is carried out at times in nearly all institutions. A painstaking report of some fifty cases investigated at Kankakee was published the first of this year. With

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society at Aurora, May 16-18, 1911.

the aid of this procedure, we are accomplishing some surprising results in the matter of diagnosis. To say of the case with doubtful findings, "I *believe* this to be paresis," brings into the diagnosis a very personal and always to be distrusted factor; but the report of a positive Noguchi, together with an increased lymphocyte count, at once assures us that we are dealing at least with an organic case if not with paresis itself.

The mental examination as we now understand it begins not with the patient, but with his progenitors, tracing back as many generations as possible, and not only taking into account the existence of actual insanity, epilepsy, alcoholism and imbecility, but also the presence of neuralgias, tics, fugues, fears, chorea, oddities, etc. Following this, the patient's life history from early childhood on is obtained from the relatives, with a view to determining what manner of man has become involved in difficulties arising out of a lack of proper reaction to stress and strain. Of course we are as yet far from satisfied with our results along this line. Too much of the work is perfunctory and hurried; but we are traveling in the right direction, having ceased to look upon a psychosis as a meteor from out a clear sky. Especially is this true of dementia præcox—that strange assemblage of symptoms ordinarily eventuating in a dementia that fills the benches of our chronic wards. The general practitioner should become especially familiar with this type of insanity, because he is the first to see the early cases—those odd, seclusive boys and girls whose "shut in personality" seems to be the chosen breeding ground for so much of this disorder. We need his intelligent assistance in making complete records of such cases, and more than this, we need it in prophylactic effort.

Turning to the patient himself, a study is first made of his reaction to the hospital environment, the value of which observations often depends upon the proper interpretation of a single act or a half dozen words; also we have him talk freely to us, and from the character of his mental stream thus displayed, inferences are drawn *and recorded* concerning the nature of his associative processes, coherency, mode of expression, general content of thought, etc. Following this inquiry, the emotional state is considered. Is there a predominating mood, and if so, what is it? Is our patient *adequate*, that is, does he react in a normal and consistent, even though exaggerated manner, or is his conduct out of accord with discoverable stimuli—actual, delusional, or hallucinatory. Much in the way of diagnosis, prognosis and treatment here depends upon a judgment which gives opportunity for keen discernment founded upon a knowledge of psychology and the possession of a sympathy broad enough to permit a full searching out of the well-springs of human conduct.

Of the study of hallucinatory and delusional experiences there is almost no end in an accessible case presenting these phenomena. Hallucinations and delusions of themselves are of no more interest than a fairy story, and a diagnosis based on their general type is little better than a guess. What interests us nowadays is the inner struggle, the suppressions and concessions which have eventuated in those products

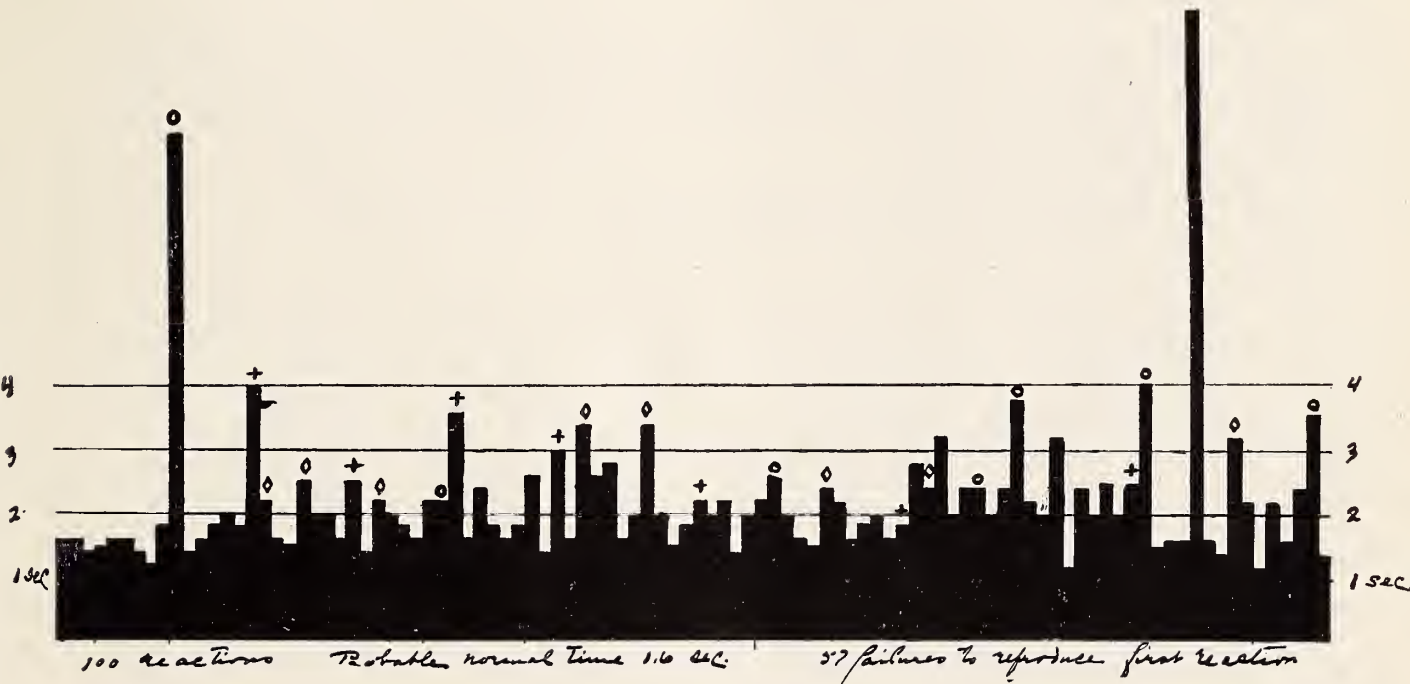
called hysterical symptoms, phobias, obsessions, hallucinations and delusions.

For instance, a patient tells me of quickly fading vision, that of a headless male figure. Questioning brings out the fact that this occurred while she was taking a bath, and that although the head was missing, she recognized the man as one with whom she had once had an illicit relationship. Already you see we are in possession of facts that point to a certain trend of interest in this patient which, when followed up, leads ultimately to an understanding of the mechanism of the aberration. During the past year we have heard much of psycho-analysis. By some it is misunderstood and derided, by others over-estimated and unduly praised, but by the majority I believe it has been accepted (with reservations), and in the state hospitals its spirit of careful inquiry has certainly effected and is effecting a great change in the methods of case study. Even though our work is more or less hasty and superficial according to Freudian standards, still we are coming to look behind the symptom for a cause, for the presence in the ego of disturbing factors termed complexes—trends of interest that have become more or less dissociated by reason of their incompatibility with life as the individual must live it, but which continue a certain independent existence of their own, and in a subject predisposed by heredity, education and environment finally attain an ascendancy which permits them to thrust themselves to the fore in the manifestations of a psychosis.

It is not my intention here to enter further into the matter of psycho-analysis than to illustrate very briefly one of the procedures on which we rely for the detection of these more or less concealed sources of irritation. Briefly stated, the value of this procedure—the *word-association test*—rests on the fact that the reaction to the different stimuli contained in a list of 100 words varies according to the emotions aroused, which emotions are the feelings concerned in various unfulfilled desires, desires which have in one way or another been thwarted by the necessities of environment and personal ability. When a word arouses memories with a strong emotional coloring, the subject, although he has been asked to respond immediately with the first word that comes to his mind, is blocked in this endeavor—he is, as we would commonly say, “embarrassed” for a moment, and when he does react we know by the unusual delay and often by the character of the reaction word, that we have touched him in a tender spot.

I have not time to consider the philosophy of the procedure, but in illustration of it, I would call brief attention to a case observed a short time ago, that of a young woman of 28, unmarried, who complains of insomnia and has suffered more or less headache for several years. Of late she has been worse, tires easily, and in the back of the neck has a sensation as if everything she had ever thought had settled there. She is conscious of an inability to think things out clearly, and letter writing makes her nervous. At times she states that she has severe pain in the right side, and “fearful pains” trouble her at times in one side of the neck running to the shoulder so she cannot use the arm. She suffers

from dysmenorrhea and dreads social gatherings. She is not insane, but psycho-neurotic. The chart I show you here is a diagram of her reaction times, the length being indicated by the height of the various columns. Her normal reaction time to indifferent words is about 1.6 seconds. You will observe the seconds are indicated by the heavy horizontal lines. Certain words have evidently called up associations having a marked emotional coloring, as evidenced by the increased length of the reaction time, and also (what I could not show upon the chart) by the nature of their reaction words and by her failure to give the same ones again when the list was gone through with the second time—which failures amounted to 57 per cent. in place of the 20 per cent. commonly found in a normal individual.



By means of different symbols I have very roughly blocked out three complexes or trends of interest evidenced in this test. Of course many other reactions not indicated are also involved. For instance, there is the group designated by the symbol O—and note here, please, the following reactions:

Stimulus-word.	Reaction-word.	Time-seconds.	Repetition.
10. Friendly	Face	8.0	Good
57. To meet	Friend	2.6	Somebody
73. Family	Friends	2.4	Love
76. Stranger	Man	3.8	Friend
86. To kiss	Baby	5.0	Friend
99. Carriage	Wicker	3.6	Baby

Observe the frequent use of the word *friend*, which, when finally given the fourth time in reaction to the word *kiss*, we have good reason to believe cloaks the thought of a lover—as it is so often used in ordinary life. And to strengthen this conclusion, we find on inquiry that the baby thought of in the first reaction to the stimulus word *kiss* is not any one of the three baby nieces and nephews of the patient, but the child of a man in whom she once took a romantic interest, and whose wife she called on shortly after the birth of this child. This same

reaction takes place when to the word *carriage* she reacts first with the word *wicker* and on repetition with the word *baby*. From all of these reactions it is fairly easy to read that she is craving a lover, a home and a child.

Again, note the reactions indicated by the symbol +, where we find her responding as follows:

Stimulus-word.	Reaction-word.	Time-seconds.	Repetition.
16. Sick	Ache	4.0	Bad
24. Blue	Pencil	2.5	Color
32. Yellow	Green	3.6	Blue
40. Stupid	Ignorant	3.0	Bright
51. White	Black	2.2	Black
85. Anxiety	Everything	2.5	Wrinkles

All of which reactions plainly indicate that she is feeling ill, discouraged and stupid; that she is conscious of a fading complexion and fears that wrinkles are coming.

Most plainly of all an anger complex demonstrates its existence in the reactions designated by the sign <>

Stimulus-word.	Reaction-word.	Time-seconds.	Repetition.
17. Proud	Haughty	2.2	High
20. Angry	Face	2.5	Horrid
26. To threaten..	Angry	2.2	Menace
42. To despise ..	Nothing	3.4	Nothing
47. Unjust	Unkind	3.4	Bad
61. To quarrel...	Hate	2.4	Dislike
69. To strike....	Ball	2.3	Something
93. Scorn	Friend	3.2	Wry

In the above I would have you note especially the reaction to the word *strike*, which, though a normal one to a tennis player (which she is), is much delayed and not repeated—two complex indicators. In connection with this it is interesting to note that when asked concerning her dreams she responded that many of them concerned misunderstandings with her mother, and in one of them she very nearly killed her mother by striking her with a chair. When she was asked to discuss her various reactions after the test was completed, it was revealed that the apparent cause of an anger complex lay in her strained relations with her mother, which difficulty, I believe, though I have not been able to carry out a complete analysis, takes its origin in some childhood jealousy concerning her father, with whom she even now conducts herself in a manner suggestive of a girl with her lover.

I am fully aware that this superficial study leads nowhere in particular—the object of it is not to instruct, but merely to illustrate in part the manner in which we are endeavoring to conduct our psychologic inquiries.

Dream analysis is made use of to a certain extent in our work, but necessarily in a superficial way, owing to lack of time and familiarity with the technic. However, in many cases it has aided us in arriving at the source of irritation and we are able to make some rough use of its

principles in the analysis of the dream states and fancies of dementia præcox.

An ordinary examination closed with an investigation of the patient's orientation, memory, general and school knowledge, etc. Often it requires long inquiry to determine whether or not there is present actual dementia, a lack of mental development, or merely defect of attention.

Although with this inquiry the formal history is complete, it is only after many weeks or months and in comparatively few cases that we are able to secure the ideal result—a fairly complete understanding of the mechanism of the aberration. We are endeavoring to re-educate during analysis, but the results thus far have been rather discouraging. A few cases seem to improve, but we cannot be sure—they might have done the same without any attempt at analysis. A short time ago a patient with whom I had been working some time to discover the origin of various somatic disturbances told me one day quite spontaneously that she had discovered why she had a queer feeling in her mouth at times. An old-time lover, it seems, when he had kissed her, had been in the habit of putting his tongue in her mouth. Naturally she did not enjoy telling this, but I was pleased because it demonstrated that my patient was beginning to associate her bizarre disturbances with her actual experience—that is to say, her re-education was in progress.

The psychic study of our patients, however, though most important, we realize does not measure our entire duty toward them. We must endeavor to co-ordinate with this a more thorough study of the psychic basis of mental abnormalities. Psychiatry suffers for the lack of pathology—save in the so-called organic dementias, and even here there is still much work to be done—and to this end the state has equipped at Kankakee, in connection with the Psychopathic Institute, a most excellent laboratory for research work. Along psychiatric lines the institute has performed a great service for the state in training physicians in proper methods of psychologic study, but in the way of pathology comparatively little has yet been accomplished owing to the fact that the Board of Administration has not been able to furnish salaries for skilled workers. However, the future in this direction is bright. Efficient laboratory men are to be put to work this summer and the institute is soon to enter upon a still greater field of usefulness.

Each institution has its own laboratory where the various measures incident to physical diagnosis are carried out. For instance, our pathologist at Watertown has of late twice found the meningococcus in suspected cases. A short time ago he showed me a slide swarming with spirochetæ and soon after obtained a positive Wassermann with this same patient's blood. Two of our hospitals are doing their own Wassermans and another reports that it is about to take up this work. Post mortems are not so frequent as they should be, although Elgin reports autopsies in 45 per cent. of its deaths, and Peoria in 40 per cent.—a remarkably good showing for these institutions. It is a strange fact that people who have not visited their insane relatives for years should

so oppose autopsy and be so insistent upon immediate funeral arrangements as soon as death intervenes. In spite of this, however, courteous persistence many times wins consent where we have least expected it.

The sick service of an institution of from 1,600 to 2,600 patients provides material enough to prevent a man from growing rusty in general medicine, and more and more attention is being paid to this branch of the service, which is now so excellently housed in a number of our institutions—and I must confess not so well cared for in others. In the writer's institution within a few months we have, among other cases, cared for pneumonia, toxic nephritis, tubercular arthritis, osteomyelitis, syphilis and gonorrhea, acute articular rheumatism, pernicious anemia, cerebral tumor, urethral stricture (with operation), cerebrospinal meningitis, carcinoma, etc.

For the graduate who fails to secure an internship in a good general hospital or upon whom it is incumbent to earn a little money, the state service furnishes an excellent opportunity. We need interns badly and stand ready to pay them \$50 a month and to instruct them not only in physical but also in mental diagnosis. Should they desire to remain in the service, promotion by examination leads through the grades of assistant physician and physician to that of assistant superintendent. Unfortunately for us, however, the graduate too often longs to become a surgeon and herein the service is weak. We are hampered by a public that either suspects some ulterior motive when operation is recommended, or rests supine in the thought that it is of no use to interfere, since the patient will still remain insane after all is said and done. Also we are hampered by our own lack of surgical practice. The most of us feel that as specialists in another line we are not fitted to take upon ourselves the responsibility of major surgery. As a result of all this, the writer feels that the patient quite often suffers, and suggests as a partial remedy, at least, the appointment of a consulting staff from the vicinity of each institution, in whose word the relatives of our wards may perhaps find it easier to trust than in the unsupported statements of the hospital staff.

After attempting this brief and inadequate description of the activities of the state service, I had thought to speak of its ideals—but time forbids this. We have them in the service, these ideals, and to the most of us they are of serious moment. We want to make realities of our dreams and to this end we require more physicians, more money and a larger nursing force. Already we are giving our acute patients a degree of personal attention unrivaled in the past; but we look forward to still better things. Acute insanity is a very personal affair and is best treated by personal study and individual nursing. Eventually we hope to accomplish this more intensive care and as a result of it the public, the patient and the alienist will reap a far greater reward than now seems possible.

DISCUSSION

Dr. L. C. Taylor, Springfield: Owing to the absence of Dr. Norbury, who was to have opened the discussion on this subject, I would like to consume two or

three minutes of the time of the society in making a few remarks in his place. I am not in any sense of the word capable of discussing this subject as thoroughly as Dr. Norbury would do, although as his successor on the Civil Service Board of the state, I became somewhat familiar with the work of the medical staff of the hospitals. I want to say that I appreciate very much Dr. Read's remarks, and also wish to state that there has been a great deal done in the last few years since the adoption of the Civil Service Law in regard to the state institutions. A few years ago the asylums were looked on as custodial, and the treatment of mental conditions was hardly entered on at all in our state institutions. The establishment of the Psychopathic Hospital at Kankakee, which occurred a short time ago, and the building of a magnificent hospital for the insane sick, has given a great impetus to scientific investigation in our institutions. I think, however, much has been contributed by the promotional examinations which have been inaugurated, and any one entering as an intern feels that he has not only the prospect of promotion, but additional compensation for the time he devotes to his work, and this has given encouragement to applications for membership on the staffs of these institutions. I will say that the author of this paper, who is too modest to make the statement himself, is a product of promotional examinations and he, like others who have been advanced, has an incentive for work, and has made that advancement on account of the fact that he has done a little more work than was formerly demanded from interns or from physicians in our state institutions. The establishment of this psychopathic hospital has given the interns and physicians throughout the state an opportunity of going to the institution and studying not only psychiatry under experienced teachers, but also pathologic conditions, and I am confident that the encouragement the men working in the state hospitals have received owing to the fact that they can be promoted by competitive examinations, has done much to improve the service.

Dr. Read speaks of one point that is absolutely urgent, and when the people of the State of Illinois are thoroughly aroused to this fact, I think they will insist on additional appropriations for the establishment of other state hospitals. We have heard the reports from different institutions, and are obliged to say that nearly all of them are overcrowded with patients on account of the fact that there are inmates in a number of the hospitals who have been compelled to sleep on the floors.

In the report I expect to make to-morrow there is reference to a measure for building another state institution. I am afraid it is not going to become a law (law since passed), although a great many members favor this proposition, but the people are a little reluctant to increase the tax rate of Illinois, and that is the only way we will get adequate care for the insane.

I am confident the new regime in the state institutions is here to stay, and I am heartily in accord with what Dr. Read has said, in stating that there are not sufficient assistants or physicians in the state institutions to give adequate attention to the unfortunate patients.

Dr. Hugh T. Patrick, Chicago: I feel that I ought to say just a word or two along this line, because we are all grateful to Dr. Read for his paper and to Dr. Taylor for still furthering the discussion.

First of all, I should like to render justice a little farther back. I think Dr. Read stated that the renaissance in our state institutions began about five years ago. As a matter of fact, it began fifteen or sixteen years ago when, under the leadership of the then president of the State Board of Charities, Dr. Boerne Bettman, a member of this society and a valuable one, the first examination was held for interns of the state institutions. Some of the best men in the state service since then, and some of the best men in the country to-day came from the first lot of interns who were examined by our committee at that time. We received support, too, of the then governor, Mr. Altgeld, who, like other men, had his faults, but to whom we must render credit for supporting us in the scientific care of the insane of the state. Interns received appointments from our committee and were sent to the various superintendents. Some of the

superintendents sent them back, saying that they had no places for interns. Governor Altgeld spoke the necessary word, and lo! and behold! rooms were found. A little later a systematic attempt was made to formulate proper examinations and investigations of the cases. In one of the institutions there were consultants, and in the same one systematic attempts were made to deliver lectures to the resident staff and to instruct them in the technic of examinations. So you see considerable interest in scientific work was manifested a considerable time ago. It is for the medical profession and for the public at large to keep on sowing the seed and to keep on holding up the hands of men like Dr. Billings, who was President of the State Board of Charities when the state psychopathic institute was established, and like Governor Deneen, who backed up Dr. Billings in his demand for increased funds and improvement in the public service of the insane hospitals. I say, it is for us to uphold the hands of those doing this good work whenever we can. It is given to every doctor in the state to help in one way by establishing confidence in the minds of the people in our state institutions to help wipe out the prejudice against them, the horror about them, and the reluctance which families have in sending members of their families to the state institutions. One would not hesitate to employ Dr. Norbury and Dr. Read to take care of any member of their families at home, and why should they mistrust the men of this type and character simply because they are at the head of large state institutions. They have the same integrity, the same conscience; they have the same earnest endeavor to do that which is best for the patient, and it devolves largely upon the medical profession to instruct the public in the fact that we have good state institutions, that we have good men at the head of them, and have competent members on the hospital staff to look after the insane. These men keep up interest in their patients just as we do in our patients. Let the people at the insane hospitals know that we have an interest in their work; that we endorse good scientific endeavor, and that we realize they have a hard position to fill, and that we are proud to help them along.

Dr. J. W. Pettit, Ottawa: Just one word with regard to the Illinois State Medical Society as applied to this work. For a number of years this society recognized the deplorable conditions existing in our state institutions to which reference has been made, and year after year it was urged at the annual meetings that we call attention to the conditions as they existed, and we kept hammering away on the subject until finally it became a political issue, and a campaign for governor was made in this state largely on the condition of our state institutions. Therefore, we must not lose sight of the fact that it was the organized profession of this state that inaugurated the movement that made all these things possible.

Dr. Carl E. Black, Jacksonville: I feel like saying a word or two in addition to what has already been said, for two reasons: first, for the splendid fund of information that this paper contained, and, second, because the writer of the paper himself illustrates the advantage to the people and to the profession of this state, of the system which has been inaugurated in Illinois of promotion of men for proven ability. I have had some indirect connection with one of the state institutions for a number of years, and I want to point out the advantage that comes back to the profession.

In Jacksonville we have under the new order of things a new class of men sent to the state institutions in the medical department, and these men are identified with our local medical society as they never were before, and they bring to us information we never got before. They are interested in their work, are seeking these promotions, and are taking up the work with entirely new life and new enthusiasm, largely on account of the new incentive. In that way the care of the insane, and the study of insanity is brought to the profession by these men by identifying them with our local and state societies.

There are several things which remain to be worked out in this connection. I, of course, have been particularly interested in the matter from the standpoint of surgery. I have never understood and do not now understand why it is that a patient in a state institution for the insane is not granted the same privileges

as regards surgical treatment that he is granted for other forms of treatment. The facts are these: if a patient has trouble which will require a surgical operation, or in whom a surgical operation is desirable, the officers of the institution find it necessary to get the consent of the relatives. In some instances these have not visited the patient perhaps for years, and have no real interest in the patient, yet as a protection the officers feel the necessity of getting the consent of these relatives. While relatives may have no real interest in the case, they are often reluctant to give consent to a surgical operation. A number of cases have come under my observation where patients have been denied the benefit of a desirable surgical operation because the relatives, who have not seen them for months or even years, are not willing to give their consent. Why is it that it is necessary to get the special consent of disinterested relatives for one form of treatment, when all other forms of treatment are carried on without any special consent. It looks to me as if consent should be given in the commitment. When a patient is committed to the care of the state, he is committed for the whole care, it seems to me that this should include surgical as well as other forms of treatment.

There is nothing which has been mentioned which is of more importance than the making of systematic post-mortem examinations in these cases. I have never been able to feel that the relation of the physical disabilities of the insane has been fully and properly connected up with their mental disabilities, and until there is some better way of studying the pathology of the living in the insane, and more freedom in conducting post-mortem examinations, we will still fail to have that amount of data which we should have for the best interest and best treatment of these cases.

I am very glad to have heard Dr. Read's paper, and I have been very much interested in it.

Dr. Julius Grinker, Chicago: I have not much to say on this subject, as everything has already been said; but I cannot help expressing my appreciation of the ideas contained in the paper, although I regret not to have heard all of it.

We must realize once and for all that the insane is a sick person—that he is not possessed of the devil—and the sooner we divest ourselves of the antiquated ideas current among the laity, and I regret to say even among some physicians, the better it will be for us and for these unfortunate patients. Some physicians are very fond of depicting the horrors of institutional treatment and they discourage the sending away of patients who need institutional care. There is a strangeness between those working in institutions and those outside of them, which is all wrong. We of the Chicago Neurological Society have made it our business for a long time to invite men from institutions like Dunning and the State institutions to come to us and read papers, and they have done it cheerfully and made the meetings a success. We know that the institutional men must come in contact with the medical profession in order to stimulate them to do the best work by receiving due appreciation and recognition. On the other hand a movement is in progress not only throughout this land, but everywhere, to make psychiatry a medical study, and to put it in touch with everything that medicine can bring to bear upon it from all sides, from the laboratory man, the student of metabolism, the clinician, and the surgeon. This can be greatly helped by having more often such papers as we have heard to-day by Dr. Read. The general practitioner must become interested in psychiatry, because after all insanity is on the increase and each community looks up to its physicians for advice in prevention and cure. I am glad that the subject has been so ably presented.

Dr. Read (closing the discussion): I do not know that there remains very much for me to say in connection with what has already been said. This is a very broad subject, and I felt some diffidence in bringing it before you this morning, but I felt that as a society you would have some interest in our institutions, and I know you do have it from what has been said here this morning.

Dr. Patrick referred to the movement that was begun many years ago in our State institutions and I know what he has said is very true. But the trouble is that scientific work in our institutions, as it was begun at times in the past, was

not carried out continuously and systematically. It went on for a time, and then died away, so to speak, for lack of stimulus, for lack of interest in the work, and that same thing has been referred to by the last speaker, who has pointed out the importance of our being in touch with the general practitioner. Physicians in these institutions need your confidence and cooperation.

Dr. Taylor brought up the important point of the need of more men, and that is a very serious problem. In the receiving wards where we receive one or two patients a day we need perhaps six or seven men to take care of these patients and to follow them up in our notes. It is not only the preliminary examination of a patient that counts, but the following up of that patient as he gains or deteriorates.

Dr. Black has emphasized the matter of the surgical attention which should be given our patients, and it is an important one. We have good men in our institutions who could do good surgery if they were doing it every day, but this they are not, and necessarily they must grow more or less rusty. Major surgery should be done by men who are doing it constantly and we should not be too afraid of an unavoidable mortality percentage.

SOME NECESSARY APPLICATIONS OF PHYSIOLOGIC PSYCHOLOGY *

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Mr. President and Members of the Chicago Medical Society: I wish to apologize for some of the statements in this paper which may appear controversial. While not opposed to controversy, I am opposed to the obscuring of issues which it sometimes involves.

The title being somewhat indefinite, it may not be amiss to explain what I have in mind.

By physiologic psychology is meant that psychology which endeavors to explain mental processes upon a basis of sensory experience.

Physiology as a science has evolved tremendously in the last half century, e. g., the various operations of man's economy were formerly explained as being due to, or under the control of, what were known as vital agencies; and while this has been abandoned, when the ordinary processes of metabolism are being considered there still remains (probably due to the elusive and unseen character of mental activity) the belief in an immaterial principle called the soul, to answer the requirements of the higher processes of the nervous system.

The position taken by Draper in his *Intellectual Development of Europe*, as regards this vital agency or principle, is gradually being assumed by physiologic psychology towards this other immaterial element, or soul. The clearness with which Draper emasculates the vital agency theory, while still conceding the existence of an entity called the soul, tempts me to quote him; and in the light of our present-day knowledge of nervous anatomy, physiology, and pathology, it would seem that his views apply with equal force to all the manifestations of human life. Hear what he says:

* Read at a meeting of the Chicago Medical Society, May 24, 1911.

Physiology in its progress has passed through the same phases as physics. Living beings have been considered as beyond the power of external influences and, conspicuously among them, man has been affirmed to be independent of the forces in the world in which he lives. Besides that immaterial principle the soul, which distinguishes him from all his animated companions and makes him a moral responsible being, he has been feigned to possess another immaterial principle, the vital agent which in a way of its own carries forward all the various operations in his economy. But when it was discovered that the heart of man is constructed upon the recognized rules of hydraulics and with its great tubes is furnished with common mechanical contrivances, valves; when it was discovered that the eye has been arranged, on the most refined principles of optics, its cornea, and humerus, and lens properly converging the rays to form an image, its iris, like the diaphragm of the telescope or microscope, shutting out stray light and also regulating the quantity admitted; when it was discovered that the ear was furnished with the means of dealing with the three characteristics of sound, its tympanum for intensity, its cochlea for pitch and its semi-circular canals for quality; when it was seen that the air brought into the great air passages by the descent of the diaphragm, calling into play atmospheric pressure, is conveyed upon physical principles into the ultimate cells of the lungs, and thence into the blood, producing chemical changes throughout the system, disengaging heat, and permitting all the functions of organic life to go on; when these facts and very many other of a like kind were brought into prominence by modern physiology, it obviously became necessary to admit that animated beings do not constitute the exception once supposed, and that organic operations are the result of physical agencies.

If thus in the recesses of the individual economy, these natural agents bear sway, must they not operate in the social economy too?

As the moral responsibility of man is the consummation of all his sensory experience and in no way differs from that of the lower animal, except its original capital (a more highly evolved nervous system) on which to operate, you can see that Draper's assumption of the soul is a purely gratuitous one, or at least is only a speculative difference.

There are not many physicians who would disagree with Draper at the present day on the theory of vital agencies as he has outlined, but unfortunately, there are numbers who still accept the homocentric absurdity of a specialized method of nervous activity, in the face of all our knowledge of comparative anatomy and the perfect analogy of metabolic processes, and it is a laudable and I hope not a presumptuous belief to wish for the same accord in the psychic as in the organic operations; which are in reality one and the same thing. The difference existing would, to paraphrase Gibbon, be much the same as between John Calvin and St. Augustine: "It would require a theological microscope to discover it."

One of the fundamental principles of physiologic psychology, and the most far reaching in its application, as viewed by me, is that all psychic processes are the result of some extraneous stimulation, recent or remote; in other words, without sensory experience, and the necessary differentiation of cells which constitutes a sensory organ, thought does not exist, and no man, therefore, is unbalanced or can become so who interprets sensory experiences correctly. This leads me to deduce the following: that it is incumbent on the human animal to protect and perfect the apparatus by which sensory experiences are conducted, elab-

orated and interpreted. The highest development we are capable of, and the one development upon which all progress depends, is the development of the nervous system, peripheral and central, and the proper coordination between this peripheral and central nervous system is the best way to avoid those errors which lead to functional or organic cerebral changes.

As the subject is quite extensive and to a great many of you may appear abstract, I will purposely avoid the discussion of the special senses, and will limit myself to one of the conclusions of modern physiologic psychology, which I wish to apply, viz.: the doctrine of freedom of the will, and at this point let me quote Ziehen.

Scarcely perceptible tensions of the frontal muscles very frequently accompany our actions, especially where strong emotions are present at the same time. Such actions as these we are inclined to designate as voluntary action. This tendency, assisted by the fancy that we act from choice in the association of ideas, has led to the assumption of a special faculty of the will. But that which we call will, on strict analysis, is reduced essentially to the sensation of tension accompanying the association of ideas and the action. The feeling that we exercise a free choice in the association of ideas and in action, is easily explained by the fact that, in distinction from automatic acts, association and action are not only determined by external stimuli, but are also influenced by ideas, the sum total of which we may designate as our empirical "Ego." A definite action must follow certain external stimuli and certain ideas according to an inevitable law of causation, just as a stone detached from its support must fall in a certain direction with a certain velocity; accordingly physiologic psychology acknowledges no freedom of the will. But we believe that we exercise a free choice because (1) we ourselves are conscious participants in the active association of ideas and (2) although the result of this association, or in other words, the result of the play of motives is not distinctly foreseen, it is nevertheless anticipated and (3) because the decision is finally made by a part of the Ego, i. e., the prevailing idea.

Psychic processes consist of three factors: (1) Sensation or perception. (2) Association of ideas, and (3) action; and action is distinctly circumscribed by the effects of the first two factors on the condition of the brain at the time. To say that we will do a thing means that what physiologists term positive tones are in the ascendancy and the assistant ideas predominate over the inhibitory. It is impossible to analyze all the minutiae of voluntary action. Possibly some of it is a chemical process and due to the altering condition of the nerve cells. Psychiatry demonstrates, however, that no special faculty of the will exists. There are no special psychoses such as moral insanity, and the disturbances of volition, either of a compulsive or retarding character, are directly traceable to disturbances of the sentient life or altered conditions in the association tracts. To repeat, then, the present sensory stimuli along with the stored up images of memory which are the result of previous sensory stimuli determine our movements. Thought and action are strictly necessitated. Thought has been called internal action, and action is thought in execution or external action. The assumption of free will is a puerile and pernicious delusion and has no basis in fact; it is puerile because it can not be substantiated, and pernicious because of its results. In examining the reasons for assuming free will, I have

decided that we are the victims of theologic casuists and hair-splitters, who have contended that ethical distinctions and human accountability for actions, is removed by abolishing free will. Let us see; ethical distinctions are a part of the race's evolution, and are varied by economic, geographic and ethnic considerations. The most superficial view of human history, undeniably and without equivocation proves this assertion. Good conduct is that which has proved of economic advantage to the race at a given time, or what was deemed to do so. Bad conduct is that which negates this. By abolishing free will we are free to trace actions, good, bad or indifferent, back to their causes. When we see certain results which we deem bad, and which are the fruition of a long series of minor offenses committed previously, we attempt to obviate them by controlling all the incidental factors throughout life. We inculcate what we judge will eventuate in good results, and avoid what produces bad. What else do we contemplate in training our children? If free will was a distinct entity ethical education would be superfluous. Modern psychology ignores and deems incompatible with its conclusions the accountability for actions, law, medicine, and even theology, to the extent that it has been humanized, look for the underlying pathology, not to prove accountability but as a means of preventing infractions of biologic law. Punishment is not contemplated. It has always been a curious phenomenon to me that nearly every well defined position of modern science is considered heretical, and that the heresy hunters have almost unanimously and instinctively set the seal of disapproval on the logical conclusions of well-balanced thinking. The inquisitorial and inhuman method of judging our fellow-man has a strange fascination for the pharisee and the mental conceit underlying the free will delusion is music in the ears of the Lord's annointed. The results to be gained by accepting the conclusions of physiologic psychology are so momentous and far reaching that I hesitate to picture. It would require a sort of historical perspective or even a prophetic insight to approximately picture the beneficent results. In a general way and without any excesses of imagination I would say that all the waves of credulity which crystalized in Dowieism would disappear, and by Dowieism I include a whole host of the religious and therapeutic distortions which are paralyzing the psychic life of the nation. It is a grave indictment and it makes one sometimes despair to know that at least 50 per cent. of our population are potential disciples and believers in these exaggerations. The saving grace (to use a quasi religious phrase) of the struggle for existence and the consequent apathy engendered, and the comparatively few proselytes and protagonists, renders the number of actual believers relatively unimportant; while we still suffer from these psychic irregularities in other lines of thought and action. The application of physiologic thinking in the field of sociology and politics would bring about the recognition that knowledge was not the special asset of this or that group of men, but was dependent on the cultivation of the individual's powers of observation and the association of the ideas dependent on the same, social readjustments would follow and the hopelessness which we frequently see manifested by the hewers of wood and

drawers of water when they attempt to change their social status would disappear. The assets of mankind are his nervous system; it is his common capital, the same as the ability of all particular birds to build similar nests, the thought, the science, the culture and refinements of life are the common property of the race, not to be preempted or used to exploit one class for the advantage of another. The anarchy of present day distribution of socially created products could not exist, or its corollary, the slum and the palace, in juxtaposition. A purely property career would not be justifiable or necessary and the evolution of the race would proceed along rational lines. The prejudice of races which exists because of economic strife, and which receives from the demagogue or politician a chimerical and Chauvinistic coloring, would be supplanted by the biologic truth that man, in order to live on the earth as the *genus homo*, must eventually become racially homogeneous. In applying laws and government society's attitude toward the inefficient, the human derelicts, the mentally diseased and the helpless, would be a combination of science and humanity, and the results would certainly take precedence over the residuum of that thought which burned witches and belabored the insane as the possessors of devils. The costly mechanism of applying rules over persons would be replaced by a government of things, permitting an equality of opportunity which would bring about the highest development of the individual as a social unit. The anachronism of political government based on geographic lines where a purely industrial activity dominates the scene would cease, and the parasitic and inefficient politician would give way to the industrial expert. In religion controlled by the ever dominant thought that our sensory experiences are the only avenues for information, the certitude of the theologian on those questions which transcend such experience would be modified and the cold and impartial conclusions of science would be the final word on all the doubtful propositions advanced. Heaven and hell would probably persist as subjective, or allegorical phenomena, but objective picturing would lose its significance with the large mass of the people and finally disappear. The question of a future state would be considered as a debatable assumption and the attitude of the agnostic would be the normal state of mind in the average man. The belief that this is not all, has probably done more to prevent mankind from correcting his errors or social organization than any other single factor in existence. We will probably decide with Metchnikoff that the pathologic termination of life and the inability to live a physiologic life cycle is largely responsible for views of futurity, and complacently acquiesce with him when he says that "if faith is essential such faith must be in the power of science." Not that faith, however, which requires a miracle to establish its position and differing only in degree, and not in kind, from the religionist's extra mundane conclusions, which one writer concluded were the "product of an empty stomach and an empty brain." Medicine would nevermore be the field where therapeutic vagaries would operate with such shameless disillusionment of the poor wretch "who climbs the last steps of life and time." Probably medicine has suffered more from the inroads of metaphysical

psychology than any other field of human endeavor. As the interest in theological abstractions ceases and its answers fail to satisfy the human animal in distress, the religious healer attempts to treat the body in order perhaps to retain his clientele and justify his occupation. Bodily ills are a reality from which none of us are at present immune and they have a material basis. Medical romancing has always been a large and lucrative field for the cultist and pathist, and even while we may concede that there is a residuum of truth advocated, yet the harm done is unquestionably greater than the relief afforded. We should ever bear in mind that truth bears no labels, and honesty of purpose is always undermined by a partisan or dogmatic position. As Gibbon admirably puts it, "Whenever the spirit of fanaticism, at once so credulous and so crafty, has insinuated itself into a noble mind it insensibly corrodes the vital principles of virtue and veracity." To crown all the physician and scientist would be the final arbiter on all questions of bodily and spiritual health. I use the word spiritual advisedly, and only for sake of charity. Bodily and spiritual health are synonymous. Education, morals and rectitude can never be placed on a physiologic basis where they properly belong without the aid of men acquainted with medical science. The obscurity and the inapplicability of what Spencer termed moral science is in great measure due to the altogether impossible standards advocated, and the unscientific and pernicious appeal to motives and rewards. The forces of Nature act and react on the just and the unjust impartially. Education and opportunity alone can develop the proper ethical standards. It may seem a species of adulation or optimism to think as I do that medical men are best able to elevate standards of conduct. Their contact with the abnormal and the morbid gives them the best opportunity of fixing normal and healthy postulates. While the psychic treatment of functional or organic nervous disorders is distinctly the province of the physiologic psychologist, and can never be delegated to the theologian whether sincere, fanatical, or fraudulent, as the end result is confusion, or the confirmation of some absurd hocus pocus or diseased introspection. The superficial wisdom of a Fra Elbertus or the self-deception of a Christian Scientist must be combated by the rationalist in medicine and surgery, who understands the limitations of his art and science. The therapeutic nihilism of an Osler indicates more wisdom and common sense than all the cults the pathies can ever conjure up. There are no short cuts to knowledge and we should remember that long before the new serum has been found social readjustment may correct the disorder. I am not disparaging the laboratory worker and I can remember on seeing my first post mortem what a thrill of enthusiasm overcame me. Here are the means and here are the measures of arriving at the secrets of life and if the veil is ever to be lifted this is the way, disagreeable as it may appear to the so-called esthetes. This thought has imparted to the dead house a halo which remains with me to this day. Oliver Wendell Holmes once said that there were human fellowships which furnished much the same kind of intoxication to him that alcoholics did to the average man. The keenest delights of living are after all intellectual

and only the open mind is capable of enjoying and participating in these to the maximum degree. The position of a doubting Thomas or a Pilate who queried, "What is truth," condenses more philosophic wisdom than all that Jonathan Edwards, Mary Baker Eddy, or any ecclesiastical exegete ever wrote. We stand in need of the same philosophic skepticism to save us from becoming a nation of fatuous, deluded numskulls. Let us take an inventory of ourselves once in a while and in the meantime prepare to deal sacredly and seriously with humanity's problems here and now. Disease, ignorance and crime are interchangeable terms, meaning much the same thing finally, and the solution is the fullest intellectual emancipation. This is the greatest secret of life and its unraveling is within our grasp. All else is controversial and debatable. We need to be afraid of error, and welcome the proven facts of science which alone deserve the appellation of truth and remember in all our vain glory and egotism the words of that sublime democrat, Whitman, "That a glance at a bean in its pod confounds the learning of all times."

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DISCUSSION

Dr. Leusman: I wish to congratulate the doctor on his paper. During my attendance at these meetings here for something like 20 years it has never been my privilege to listen to a paper so replete with general philosophical interest, so free from self-exploitation and so intimately in touch with modern struggle. Modern? The eternal struggle for intellectual liberty initiated when humanity grew conscious; let us say historically beginning with Anaxagoras, who dared to believe and express such belief in gods differing in some minutiae from those held to be correct by his contemporaries. It took the genius of a Pericles to save his friend from being inflicted with the death penalty for so grave a crime. Socrates had to die for the same crime; there was no Pericles to defend him. And then the persecutions and executions sustained by the early and honest and simple-minded Christians on account of their faith at the hands of Roman mobs and Roman politicians. Then Hypatia, the heathen professor of mathematics and philosophy at Alexandria, bewitching picture of youth, of intellectuality, of the eternal feminine; she had to be slain by ignorant Christian monks set into murderish action by the envy, ignorance and bigotry of a Christian bishop. Her death was contemporaneous with the ascendancy of Christianity to unlimited political power and the simultaneous setting in of the intellectual night of the dark ages for a period of 1000 or 1500 years. Who will count the victims—prominent and otherwise—sacrificed on the altar of intellectual liberty by the Holy Inquisition? Then look at Calvin burning Servetus the codiscoverer with Harvey of the circulation of the blood. Behold the frightful murders and unspeakable tortures inflicted on heretics or witches in the land of the free and the home of the brave by the fanaticism of Puritans. "But we do not persecute now, at least not to the killing point," some one says. What about Francisco Ferrer the founder of the modern school in Spain, the man who set about by means of secular instruction to redeem his fatherland from the thralldom of 80 or more per cent. of illiteracy under a church controlled system of education? Less than two years ago after conviction under a charge since demonstrated to be false he was shot to death in pious Christian Spain, a victim of priestly persecution and legal murder. Copernicus the rediscoverer of heliocentric astronomy did not dare to publish his work (written 30 years previously) till he felt natural death to be near. Giordano Bruno was burned at the stake for having the courage of his convictions and Galileo escaped a similar fate by an ostensible recantation.

Well at any rate, humanity began study by observing the heavens. Astronomy led to physics, chemistry, biology, psychology and sociology. The study of physiology led to psychology and psychiatry. And here again educated opinion

must make an urgent, a necessary appeal for free expression of all thought. Thus we find ourselves face to face with such questions as to the nature of truth and error, free will and determinism, responsibility, crime, vice, duty, altruism, philanthropy, sympathy, religion, miracles, animism, superstition, soul, witchcraft, spiritualism, faithhealing, the nature of bibles, their place in and out of schools, the nature of God and Gods and his or their place in and out of schools, in and out of politics, in and out of constitutions, nature of atheism, materialism, morals, sanity and madness.

Now as to some definitions, but I may here be permitted to state with regard as to what is to follow, that ideas are necessarily presented in fragmentary form; I am also deeply conscious of the difficulty of the undertaking relative to personal capacity and the still greater difficulty inherent in the subject matter. Since a wrong is the infringement of the rights of another, it is and must frequently remain an open question as to the dividing line between, as for instance, where the devout believer infringes on the atheist and vice versa. We must then show forbearance and have sympathy with each other's shortsightedness till finally reason leads to agreement.

Will we all have. In the last analysis this means the desire to live consciously or unconsciously. Heredity bestows upon man his nature, and environment modifies his nature. Thief and judge changing cradles and environments would change places. Natural law rules in the psychic world the same as in the physical. Will is controlled by preponderating desires called motives and motives are determined by heredity and environment. Are men automatons? We think not all of them nor entirely, since when man becomes intelligent it appears he then may to some, perhaps a microscopic, extent influence his environment and thus his nature and thus his will. As individual intellects differ they will react differently upon the same will to live under the same conditions of life, giving the appearance of freedom of the will and making it look as though volition was altogether a free act not determined by heredity plus environment but by man's own and free will.

Responsibility is an assumption by man-made law as a convenience and practical working necessity, just as in the case of the rich and the poor man a state of equality for the sake of convenience is assumed to exist before a court of law.

What is truth? Some say: Truth is the correspondence between our ideas of things and their reality. Since our five senses are imperfect and limited, sense and perceiving organs and our association-centers produce imperfectly working mental processes; even theoretically we can never hope to learn the absolute truth. Truth is born of reality and error is the child of misplaced imagination, delusion, illusion and hallucination. Dowie: was he intensely religious or was he plainly insane, or a plain imposter, or was he a scientific mixture of all three?

Duty is a legally not enforceable obligation to do something, an idol for good or evil, implanted into our consciousness by autosuggestion or inculcated by another more frequently a superior, for an ulterior purpose. Altruism, according to Macaulay, is far-sighted policy. Patriotism has been as great a convenience to the politician as medicine to the physician and the soul to the theologian.

Religion, the outgrowth from animism, is the belief in personal spiritual or supernatural beings who exert an influence in human affairs, which belief is strong enough to influence conduct. Atheism is freedom from religious beliefs. Sin is a theological crime, crime is a violation of man-made law, vice is a product of a violation of natural law. Miracles are ostensible violations of recognized laws of nature. The conception of the soul has been replaced by that of consciousness as experienced by certain cells of our brain.

Spirits are personified causes; the spiritualistic theory of disease has strongly tended to prevent progress in the medical art among the lower races (Tylor). Immortality is replaced by conservation of matter and force and fame, according to the worth of an individual and in proportion as faith in spooks loses its hold on the masses or even men of known mental power.

Reason is born of knowledge that is obtained through experience, experiment and observation. Thought is a function of certain brain cells; the truer thought operates in conformity with the laws of logic, and the reality of facts the more reasonable is thought. Intuition and instinct, primitive faculties, are inherited or acquired by long usage—experiences.

Henry Dumont says: "It is becoming more and more difficult to harmonize religious doctrines with developments in the intellectual and physical world, and the effect of progress is the destruction of religion. The motive power for good is a product of evolution; it is not acquired through religious beliefs of any description. To do good is not a religion, it is a necessity." Taylor, in *Primitive Culture*, "deplores the existence of a system so hateful to the man of science for its suppression of knowledge and for that usurpation of intellectual authority by a sacerdotal caste which has at last reached its climax now that an aged bishop can judge by infallible inspiration the results of researches whose evidence and methods are alike beyond his knowledge and his mental grasp."

In conclusion let me emphasize that narratives which to one side are sacred history may seem to the other mystic legend.

Where is the way out? Sympathy (put yourself in his place) is the angel that saves the bigoted believer or atheist from the terrors of their own conclusions; sympathy and charity tempered by reason are the saving worth while elements in creeds and dogmas and isms. Judgment tempered by sympathy makes for more justice and less legality and more natural law. To the stern, unalterable laws of nature we all must bow, our redeemer must be in the future, as history has shown it to have been in the past, not blind faith in ancient myth-makers or so-called authorities, but science and dependence on ourselves.

Dr. Charles J. Lewis: The subject of the paper does not lead readily to definitions. From this we are at a loss to know how to understand the technical terms of the doctor's otherwise ornate and excellent paper.

The essayist might have mentioned that Wilhelm Wundt was the father of physiologic psychology. Ziehen about the same time went farther than Wundt by studying the afferent path of the nervous system. Others have added to our knowledge of the function of this path. The function of nerve fibers in general had been previously studied, but scarcely any attention had been given to nerve cells.

We have some knowledge of the sensing tips of the nerves of common sensation as well as of the special senses, but of the ideating centers scarcely any at all. To know the meaning of physiologic psychology, we must know what the sensing and cortical cells do. Isn't it strange that we connect the scientific term physiology with the mythical word psychology, which has no content? I have thought that by following a hint in Carpenter's *Physiology*, edition 1860, we might substitute for it the word "cerebrology." This would be in accord with the mechanism of the nervous system and would make it easier to understand its function. But as long as we hold to the word psychology we must live in the mystic world of the past.

Ziehen is confusing in his use of the word "sensation" when he applies it to the working of the cortex. I think the proper place to apply the word sensation is in the end organ of sense, that is, the feeling of the sensory image in these organs is sensation. When the images are conveyed to the ideating (sensory) centers, ideas are formed of the objects observed. The course of these ideas may now be either to the association center, and thence to the motors, or by a direct path to the motor areas.

The association center, according to Ziehen, is the place where recently formed ideas are associated with fragments of previously formed ideas. A better assumption is that the five ideating centers send (?) their ideas to the associating center where they are compared, each with the other, and fabricated into judgment, reason and other connotations.

Will is represented as "action." A better view of will is to regard the motor areas as shipping stations from whence are shipped to muscles for action, ideas,

judgment, reason and other forms of nerve impulses that stream into them from the ideating and association centers.

Neither our essayist nor Ziehen have discussed the source of nerve impulses. In Foster's *Physiology* there is a sentence that implies that sense stimuli have something to do with the working of the brain. If sense stimuli become images, images ideas, and ideas in turn become reason, judgment, and "will" the sending of these out to muscles for "action," then Ziehen is right in holding that will is not free. To be free, there must be a mechanician in the brain that produces the material for action out of something else than sense stimuli.

By thus studying the sensory and motor paths, as I am sure we have anatomic grounds for doing, we will be able to conclude that cerebology represents the work of the brain better than the word psychology. Moreover, this view of the activities of the senses and brain would easily lead us to form such associations that would stimulate communities to form closer social relations and thereby bring about a more equitable living.

Dr. Polki: It seems that there is a misunderstanding or some variation as to the terms to definitely designate this subject. The term "physiological psychology" as understood to-day does not mean sensory reaction of the human being. Jennings, who made great studies on terms of physiologic psychology, started with the ameba and got no animal behavior that he could determine, but simply a motor response. Going on up to higher forms of life he still explains most of their action in terms of motor behavior. For instance, studying the mouse, certain pictures, or memory-ideas, apparently can be cultivated in the animal by a series of trials, but that does not prove that they are sensory impressions or images. In fact, if you change the images in any way he seems to have lost all forms of learning, so that Jennings comes to the conclusion that while they may have ideas most of it is done by physiologic response.

Instead of going into speculation about terms, I believe it is well to follow Professor James, who says that before applying a difficult hypothesis we should take the simple. Take the things that can be expressed in terms of behavior before taking the activities of the cells or their responses, which are hard to study scientifically. To many the study of behavior as explained in physiologic terms is comparatively easy.

V. H. Podstata: I was greatly interested in this paper. At the same time, while liberality was praised and we were urged to be broad minded, yet the author proceeds to assume certain things as settled, positively decided, which I think cannot be so considered. We all agree that the single animal cell, the ameba, shows evidences of perception, a kind of association and very plainly reaction. We further find that in the human being there are simple nervous activities, such as the knee-jerk, that are elemental, showing simple sensory perception, association and reaction. Further we cannot doubt, if we have studied anatomy of the nervous system and the psychic activity, that even the most complicated psychic processes are undoubtedly based upon the elemental perception, association and reaction. Further still, we know that normal activity of mind is impossible without intact nervous tissue, containing the neurons needed for such activity. We may, in fact, trace some very complicated mental processes, like those needed for proper performance of speech, and possibly locate the very region where interruption has taken place in aphasia. But, when we have done that and perhaps more than that, surely we cannot boast that we know all about the inner activity of our brain.

The author stated that upon the acuteness of our five senses depends the scope of our mental activity. But we do not even know as yet all there is to be known about these senses of ours. We started with five and now we count perhaps fifteen of them. But even these many senses serve to indicate to us that we are in the very beginning of knowing as to how we receive impressions from the outside, what truly constitutes the sensory path to our brain.

Further, even though we have by far the highest form of mental activity in the entire animal world as we know it, we certainly do not possess the most perfect sensory apparatus. I do not believe we need question the fact that the

eagle sees more and farther than we do, that the cat can hear things that bear no sound to us, or that a dog can smell things where we find no odor. Therefore our superior mental achievements are not due to superior sense efficiency.

The study of the construction of our brain and the analysis of our psychic activity shows us that it is not our superior perception, but the extensive association and elaboration of the perceptions which enables us to attain the higher intelligence of which we are so proud now, even though we know that our best of to-day will be the laughing stock a thousand years hence.

In view of our serious limitations, it is very important to us to be true agnostics, that is, to be willing to stand up and say: "I do not know." Under no circumstances can we, either as religious enthusiasts or as atheists, undertake to criticize a fellow being: "In this essential thing you are mistaken, in this or that you act the fool." We must realize that we are only in the very early beginning of evolution or of the being called man. The one thing we may perhaps safely assume as true is that without a healthy brain we cannot develop healthy intelligence. We may, however, just as safely assume that we do not know anything as yet of many important influences which operate upon our brains and aid in shaping their activities. Further, we know little about the brain itself.

Let us therefore be liberal, let us be true agnostics. That is the only safe and sound position to take, and in taking it we shall be more receptive to later truths and in that way best aid in the human development and progress.

Dr. McEachern (closing the discussion): I was very much interested in the discussion. While I did not meet any violent opposition I was in hopes the discussion would touch on a theory that has been advanced by some psychologists, particularly by Wundt in Germany. Since the abandonment of the theory that a selective agency exists which determines what we shall do there has been advanced the theory of apperception. Dr. Lewis hinted at it and I should like to give you Ziehen's position on this theory. According to the advocates of apperception, this quality is found in the frontal lobes of the brain. A definite location was given because it would perhaps better conform to our knowledge in the natural sciences. Particular actions were controlled and determined by the activity and development of this particular region. You see the assumption is very similar to the metaphysical assumption of a soul. According to Ziehen the conclusions are not correct. He thinks association of ideas determines our actions, and is sufficient basis for explaining everything. This particular location has been put in the frontal lobe by Wundt despite the fact that large areas of the frontal lobe may be removed and the quality he attributes to apperception still remains and is only impaired to the extent that the association tracts of that region are involved. Ziehen contends further that the brain of the monkey is relatively as large as man with the exception of the lower part of the third frontal convolution, Broca's area of speech and the region which controls the trunk movements, which explains why these animals are unable to speak or assume the upright position.

Disease processes anywhere interfere with mental action; e. g., in hemiplegia which usually involves the Rolandic area and where most of the results are motor and involve one lateral half of the body. The destruction of the association fibers accounts for the inability of the hemiplegic to control his emotions. This probably explains Tillman's weeping over Lorimer in the U. S. Senate.

I agree with Dr. Lewis that probably cerebriology or cerebration is a more appropriate term. Physiologic psychology as defined by Ziehen, does not take into account what are known as automatic or reflex acts. Purely reflex acts occur in animals that have the cerebrum removed. You are all aware that removal of the cerebrum does not prevent the frog swimming or removing the irritation of acid placed on the opposite leg. Physiologic psychology is only concerned with processes in the cerebrum having a psychic content and that cannot be explained as automatic or reflex acts. Reflex acts can be explained as being governed in the cord; automatic acts in the optic thalamus, quadrigeminal bodies and cerebellum. There are some automatic acts which are probably developed from reflexes and some that were originally psychic by a process of

retrogression become automatic. The ability of an animal to avoid obstacles illustrates an automatic act.

I agree with a great many of the remarks that have been made but I wished to bring out this point on apperception and I wish to explain another phenomena known as hallucinations to prove that sense perceptions only are necessary. Hallucinations are nearly always the result of diseased sensory organs. It has been proven that people without sight or hearing since birth never have hallucinations of sight and hearing. In hallucinations a reversal of the ordinary processes exist which is first stimulation of a sensory cell carried on to the memory cell and then action. In this condition the memory cells react on a diseased sensory cell, and then action follows.

What I had in mind in making this talk was to make it as emphatic as possible that where we can apply a physiologic explanation to processes that remain more or less obscure we should do it, instead of looking for a supernatural hypothesis. I think this method of reasoning is absolutely essential to the development of man, otherwise we shall never get the best results out of literature or out of life. I believe with one of the discussionists that agnosticism is the correct position for us to take, but in my agnosticism I would not allow absurdity to propagate and perpetuate itself. We should take measures to correct that which is absurd. The assumption that every man's religion is a personal affair is wrong; it may be a menace to the community in which he lives.

STUDIES IN MIXED INFECTION IN PULMONARY TUBERCULOSIS *

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The importance of mixed infection in pulmonary tuberculosis is at the present time a much-disputed question. Some investigators believe the tubercle bacillus responsible for all the pathologic changes, while others believe the tubercle bacillus is of little importance and the organisms of mixed infection are responsible for all the damage done. Between these extremes of opinion are those observers taking a middle ground, some assigning the major rôle to the tubercle bacillus and considering the organisms of mixed infection of less importance, and others assigning the major rôle to the organisms of mixed infection and considering the tubercle bacillus of little importance.

This disparity of views of different observers is due to the inadequacy and inaccuracy of the methods used in the investigation of this problem. In all the work done approximately seven different methods of investigation have been used: (1) clinical study; (2) sputum examination; (3) post-mortem bacteriologic and histologic examination of the lung; (4) leukocyte count; (5) opsonic index; (6) animal experimentation, and (7) blood-cultures (a) after death, (b) during life.

Clinical study gives no definite information. Examination of the sputum—washed or unwashed—is not reliable because all the organisms of mixed infection in pulmonary tuberculosis are found normally in the

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

* From the Laboratory of the Ottawa Tent Colony, Ottawa, Ill. Work done under Max Pam Research Fund.

mouth, pharynx and trachea. Post-mortem examination is of little value because of terminal, agonal and post-mortem invasion; and the leukocyte count and opsonic index are indirect methods. Blood-cultures after death are not indicative of conditions in the living because of agonal and post-mortem invasion. Blood-cultures during life in the hands of early workers—up to 1900—were of little value because sufficient care in the prevention of contamination from the skin and air was not used. Later workers, using a more careful technic—drawing a larger quantity of blood directly from a vein under aseptic conditions—have been uniformly unsuccessful in recovering pyogenic organisms from the blood-stream. Tessier,¹ Jochman,² Panchi,³ Benohr⁴ and Reiche⁵ altogether have made approximately 650 examinations of the blood and recovered the streptococcus or pneumococcus only sixteen times, or 2.4 per cent. positive results.

From these results it has been concluded that if pyogenic mixed infection is of importance in tuberculosis, the action is due to soluble toxins being thrown into the general circulation from a localized area of infection rather than a general bacteremic infection.

The history of the development of the bacteriologic investigation of the blood in various diseases shows an increase in positive blood findings with the development of more careful bacteriologic technic. Because of the possibility that the negative results of these workers may have been due to inefficient technic and because of the direct evidence furnished by bacteriologic examination of the blood during life, I decided to use this method of attack in the study of mixed infections in pulmonary tuberculosis. It was decided *a priori* that the most efficient technic would be one in which a large quantity of blood was drawn under conditions eliminating contamination from the skin and air as nearly as possible, and cultivating the organisms in an environment but little different from the conditions under which they had been living in the human body. Several methods of skin sterilization were used—scrubbing, washing with carbolic and bichlorid, painting with iodine, and scrubbing with alcohol. Scrubbing with alcohol was found to be most efficient and convenient. Various culture media were used—bouillon, glucose bouillon, litmus milk, plating in agar and in glucose agar and incubating the undiluted blood.

After considerable experimentation the following technic was adopted. The blood was aspirated directly from a vein under aseptic conditions in all examinations. In about the first forty cases examined glass beads were sterilized in the aspirator, the blood was drawn in and allowed to clot. When the culture media were ready, the blood was defibrinated in the aspirator by shaking with both ends closed and then transferred to the culture media. However, in the remaining ninety cases it was found that by having the culture media ready and by working quickly, the blood could be transferred from the aspirator to the culture media before coagulation took place. This variation in technic made no difference in

1. Tessier: Jour. de physiol. General, Par. III, 223.

2. Jochman, G.: Deutsch. Arch. f. klin. Med., 1905, xxxiii, 558.

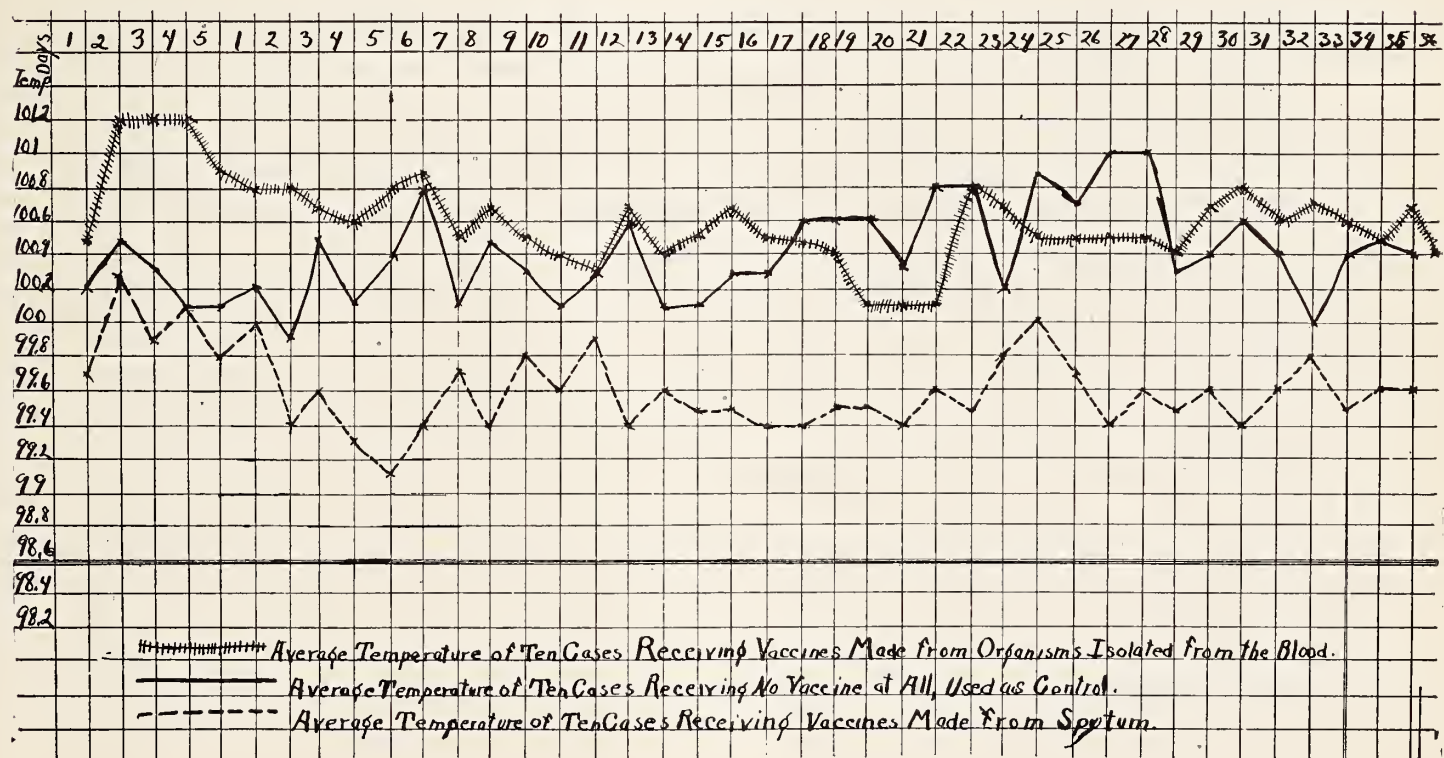
3. Panchi: Berl. klin. Wchnschr., 1908, No. 41, 1840.

4. Benohr, R.: Mitt. a. d. Hamburg Staatskrankenanst., 1908, viii, 323.

5. Reiche, T.: Med. Klin., Berlin, 1909, v, 1962.

the relative number of positive results. The aspirating device was the familiar glass bulb, one end plugged with cotton and aspirating tube attached, a rubber connection and antitoxin needle on the other end; the needle was protected by a test-tube. Immediately before using, the whole aspirator—including the tubing—was wrapped in a towel and sterilized in the autoclave at 120 C. for fifteen minutes or more. In drawing the blood, the upper arm was constricted, the cubital region scrubbed vigorously with alcohol, and anesthetized with ethyl chlorid and the venous puncture made. When the blood commenced to flow the compression was relieved and about 15 to 30 c.c. of blood aspirated into the bulb. The number of cultures showing contamination with *Staphylococcus albus* was 10 per cent.

In transferring the blood from the aspirator to the culture media, the needle with its rubber connection was detached, the end of the glass



aspirator flamed, the corks of the culture tubes and flasks flamed and the corks removed by an assistant, the necks of the flasks and tubes flamed and the desired amount of blood transferred quickly to the culture media. Every possible precaution against contamination was used. One or 2 c.c. of blood was put in each of three flasks containing 5 c.c. of melted agar cooled to 40 C. and plated out by mixing and laying the flasks on their sides, 5 c.c. put in each of two or three flasks containing 50 c.c. of bouillon and the remainder—2 to 5 c.c. full blood—incubated in a sterile test-tube.

After twenty-four hours the agar plates were examined for deep colonies showing green discoloration or hemolysis, and any such transferred to blood-agar slants, smears from the full blood and bouillon were examined and transfers were made from all flasks to blood agar slants. After forty-eight hours 1 c.c. of the bouillon cultures was plated in blood agar, a sterile pipette being used in making the transfer. All cultures, except those definitely staphylococci, were studied microscopically and

culturally. Cultures were made on blood agar, plain agar, potato gelatin, milk, bouillon, dextrose agar and serum inulin agar or serum inulin water. In all cases considered positive the organisms grew in pairs or chains, were Gram positive, showed clear dewlike growth on blood agar, little or no growth on plain agar, no visible growth on potato, little or no growth without liquefaction in gelatin, acidify with or without coagulation in milk, scant growth of pairs or chains in bouillon, little or no growth in dextrose agar.

The differentiation of the streptococcus and pneumococcus—in so far as that is possible—was made on the following criteria:

1. Reaction on blood-agar plates.
2. Chain formation on blood agar and in bouillon.
3. Reaction on serum inulin agar or in serum inulin water.
4. Growth in gelatin, capsule formation, growth on plain agar, and morphology were not considered of especial diagnostic importance, although they were considered in making the differentiation.

Even with this large number of criteria it was frequently hard to determine whether an organism should be called a streptococcus or pneumococcus. One hundred and thirty cases representing all stages of the disease, incipient, advanced and far advanced, were examined, and either the streptococcus or pneumococcus recovered in fifty-nine, or 45 per cent. The streptococcus was found in thirty-five cases and the pneumococcus in twenty-four cases.

Twelve incipient cases were examined with two positive, or 16 $\frac{2}{3}$ per cent.

Ninety-nine advanced cases examined, forty-five positive, or 45 per cent.

Nineteen far advanced cases examined, thirteen positive, or 68 per cent. positive.

Sixty-five cases with temperatures above 100 examined, thirty-seven positive, or 58 per cent.

Sixty-five cases with temperatures below 100 examined, twenty-two positive, or 34 per cent.

These results show that mixed infection is an important factor in pulmonary tuberculosis, and that pyogenic bacteremia is a common occurrence; that it is comparatively rare in the incipient stage, more frequent in the advanced stage, and very frequent—over 60 per cent.—in the far advanced stage.

Bacteremia is found in cases with cavities and in cases without cavities; is twice as frequent in cases showing temperatures above 100 as in cases showing temperatures below 100.

Pyogenic bacteremia in pulmonary tuberculosis is not necessarily a terminal, agonal or post-mortem invasion, but occurs in all classes of cases many months before death or ultimate recovery.

Active immunization with tuberculin has been used against the tubercle bacillus with fairly good results, but if the organisms of mixed infection are responsible for a share of the damage done, active immunization against these organisms should also be of value. Because the

secondary organisms are not the same in all cases, autogenous or personal vaccines should be used if direct treatment is to be of value. Since June 15, 1909, I have administered autogenous vaccines in eighty-four cases of pulmonary tuberculosis at the Ottawa Tent Colony. Of these eighty-four cases fifty-six were under observation two months or longer. Patients not under observation at least two months are not included in this report.

A study of the criteria of improvement in pulmonary tuberculosis has been made on these cases, and comparison with groups of cases of the same kind not receiving vaccines have been made. It was early determined that comparison of weight was not a reliable basis for comparison. The amount of expectoration is frequently very irregular, and the physical findings, except from month to month, are of little value in determining their action, and some cases not receiving vaccines have improved as markedly and as rapidly as cases receiving them. The opsonic index in a series of fifteen cases showed an increase after inoculation, but the opsonic index, at present, is not considered a reliable indicator of recovery. A study of the temperature should show some results, especially if the temperature is caused by the organisms of mixed infection. The study of the temperature curves in individual cases yields but little; marked positive, doubtful and negative results are found in cases receiving and cases not receiving vaccines; therefore, in order to obtain as nearly a just comparison of results as possible, the average of a number of cases should be made the basis of comparison.

In ten cases receiving autogenous vaccines made from the sputum, the afternoon temperature from five days before the first injection of vaccine to forty-five days after the first injection, was taken and a daily average of the ten cases made. This gave the average temperature of the ten cases for the period during which vaccines were administered. Ten cases showing similar lesions were selected from the group receiving autogenous vaccines made from organisms isolated from the blood, and the average temperature of this group was obtained in the same manner and for the same length of time. Ten cases showing similar lesions were selected from cases not receiving vaccines at all and recorded and averaged in the same way. All recorded cases were subjected to the same conditions of housing, diet, exercise, season, climate; in fact, the extraneous conditions were equalized as nearly as possible. The average temperature of each of these groups was plotted graphically (see Chart), and a comparison of these curves shows very plainly that autogenous vaccines made from organisms isolated in blood-cultures have no effect on the temperature, while autogenous vaccines made from organisms isolated from the sputum have a marked reducing effect on the temperature. Vaccine, in all cases, was administered every five to ten days. There were four moderately advanced, five advanced and one far advanced case in each group selected for comparison. From a study of these averaged temperature curves the following conclusions are drawn:

1. Autogenous vaccines made from organisms isolated directly from the blood stream in pulmonary tuberculosis have practically no effect on the temperature.

2. Autogenous vaccines made from organisms isolated from the sputum have a reducing effect on the temperature in pulmonary tuberculosis.

It has also been observed that during the past nineteen months, June 15, 1909, to Jan. 15, 1911, hemorrhages have been less frequent than before. The class of patients, diet, exercise, sleeping conditions, supervision, etc., were practically the same as in preceding years; the only new factor introduced into the treatment was the administration of autogenous vaccines. It has occurred to me that possibly the injection of vaccines against the organisms of mixed infection had a protective action against tissue dissolution and hence against hemorrhage. In all cases considered in the class receiving vaccines at least three doses of vaccine were administered.

In thirty-two cases vaccines were made from organisms isolated from the sputum and in twenty-two cases vaccines were made from organisms isolated from the blood stream. The whole group of fifty-four cases is compared with the group not receiving vaccines and the cases receiving vaccines made from organisms isolated from the sputum and blood are considered separately. The results are tabulated as follows:

TABLE 1.—HEMORRHAGES BETWEEN JUNE 15, 1908, AND JAN. 15, 1911, PATIENTS NOT RECEIVING VACCINES

No. Cases.	Hemorrhages.	Per Cent. Hemorrhages.
Incipient	66	..
Advanced	31	15
Far advanced	10	..
Total	231	

TABLE 2.—HEMORRHAGES BETWEEN JUNE 15, 1909, AND JAN. 15, 1911, PATIENTS RECEIVING VACCINES MADE FROM ORGANISMS ISOLATED FROM SPUTUM OR BLOOD

No. Cases.	Hemorrhages.	Per Cent. Hemorrhages.
Incipient	6	..
Advanced	42	5.5
Far advanced	6	..
Total	54	

TABLE 3.—HEMORRHAGES BETWEEN JUNE 15, 1909, AND JAN. 15, 1911. PATIENTS RECEIVING VACCINES MADE FROM ORGANISMS ISOLATED FROM SPUTUM

No. Cases.	Hemorrhages.	Per Cent. Hemorrhages.
Incipient	2	..
Advanced	25	3.1
Far advanced	5	..
Total	32	

TABLE 4.—HEMORRHAGES BETWEEN JUNE 15, 1909, AND JAN. 15, 1911. PATIENTS RECEIVING VACCINES MADE FROM ORGANISMS ISOLATED FROM BLOOD

No. Cases.	Hemorrhages.	Per Cent. Hemorrhages.
Incipient	3	..
Advanced	16	9
Far advanced	3	..
Total	22	

TABLE 5.—RESULTS IN CASES SHOWING DISTINCT HEMORRHAGIC HISTORY. PATIENTS NOT RECEIVING VACCINES

Number showing hemorrhagic history.....	8
Hemorrhages while in institution (3 to 5 months).....	3
Per cent. hemorrhage	37.5

TABLE 6.—RESULTS IN CASES SHOWING DISTINCT HEMORRHAGIC HISTORY. PATIENTS RECEIVING VACCINES

Number showing hemorrhagic history.....	11
Number having hemorrhages in institution after vaccine was begun (3 to 5 months).....	1
Per cent. hemorrhage.....	9.1

From these tables it is seen that the percentage of hemorrhage in cases receiving vaccines is approximately one-third of that in cases not receiving vaccines. It is also seen that the percentage of hemorrhage in cases treated with vaccines made from organisms isolated from the sputum is very much lower than it is in cases treated with vaccines made from organisms isolated from the blood, and while it is not admissible to draw definite conclusions from a study of fifty-six cases, the results are indicative, and I believe, will justify the administration of autogenous vaccines in a large number of cases as a protective measure in the same way typhoid inoculations are used in the prevention of typhoid fever.

The results of this work may be summarized as follows:

1. Mixed infection is of great importance in pulmonary tuberculosis.
2. The mixed infection is not a local one confined to the lung, but is a general blood infection.
3. This general blood infection is not a terminal septicemia, but can be found in all stages of the disease, showing all degrees of activity many months before death or ultimate recovery.
4. The percentage of positive blood-cultures increases in direct ratio with the progression of the disease and the activity of the condition.
5. Blood-cultures in pulmonary tuberculosis are of value in the diagnosis of mixed infection, giving the only really exact information concerning this condition.
6. Vaccines made from organisms isolated from the blood appear to be of little value in the treatment of tuberculosis as shown by the temperature curve.
7. Vaccines made from organisms isolated from the sputum are of marked value in the treatment of tuberculosis as shown by the temperature curve.
8. Active immunization against mixed infection seems to protect against hemorrhage.

ATTENUATED TYPES OF SUPPURATIVE SPHENOIDITIS IN
RELATION TO SO-CALLED POST-NASAL CATARRH,
TO HEADACHE WITH MENTAL DAZE
AND TO ASTHMA *

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Interest in the accessory sinuses is culminating in a new nasal pathology. There are twenty or more of these outlying and attic chambers of the nose which together have an area, as well as a proclivity for infection by germs, far in excess of all the rest of the nasal structure. Nasal polypus has been merged with sinus infection, hypertrophy of the middle turbinal with hyperplastic ethmoiditis and atrophic nasal disease, as I once

* Read, in abstract, before the Chicago Medical Society, Dec. 28, 1910.

suggested, with suppurative ethmoiditis. In the same trend will be found my present theme, to the effect that the condition, classed as nasopharyngitis but commonly referred to as post-nasal catarrh, is due, to an extent not yet realized, to infection of the sphenoid sinus, together usually with implication of the post-ethmoid cells. The exact source of this "catarrhal" flow or "dropping into the throat" has been wont to elude, with embarrassing frequency, the most skilled in the art of "mirror gazing." At times, empyema of the antrum, secreting clefts of adenoid overgrowth or turbinated posterior hypertrophy could be held responsible and the "dropping" then be remedied, but more often, despite all efforts, the flow would persist, showing that the fountain head had not been reached. The sphenoid sinus, though sometimes suspected and by Schaeffer,¹ Hajek² and others^{3, 4} vaguely accused, being out of sight, has been out of mind, until adrenalin's vaso-constrictor effect availed to facilitate reaching to its depth by exploration and operation. By this and similar means my suspicion has so often been converted into fact that I seek to attach to sphenoid infection its full import as a source of post-nasal discharge. In point of frequency, however, it is not that grade of infection already known as empyema or suppuration of the sphenoid sinus, whose product is typical pus, but it is the less pronounced, hitherto not definitely recognized, degrees of suppurative sphenoiditis, herein designated for the sake of emphasis, as "attenuated types," and whose secretions appear as variously modified puruloid products—which result in the kinds of post-nasal discharge specified. Bacteriologically, there are many varieties,⁵ but most of the puruloid products which constitute post-nasal discharge may be grouped, for the purpose of clinical recognition, as issuing from the sphenoid sinus, into two classes.

The first class includes secretions, varying from pus to muco-pus, of the sort familiar in focal suppuration like that of sinus empyema of a minor degree. If the nasal space permit, it may be observed to issue as a bead from the sinus, being mobile at its source and colored from pale yellow to a bright orange or saffron hue. It may thicken, but not into a varnish-like film, and it does not readily induce nasal or pharyngeal atrophy, tending rather toward associated hyperplasia of the edematous type and polypi in the sphenoid sulcus.

The second class of secretion is quite unlike the product of ordinary focal suppuration. It is a viscid, mucilaginous, sometimes fetid substance which, when copious, forms into long, ropy strings and blocks the nasal passage, defying ordinary means of expulsion. When scanty it accumulates over the Eustachian tube or elsewhere in the naso-pharynx in brownish splotches, comparable only to liquid glue, which, when "set," form hard adherent crusts, liable to require the leverage of a probe

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4. Berens, T. Passmore: Tr. Am. Laryng. Assn., 1905.

5. Turner, A. Logan, and Lewis, J. C.: A Further Study of the Bacteriology of Suppuration in the Accessory Sinuses of the Nose; reprinted from the Edinburgh Med. Jour., April, 1910.

to pry them loose; but when not quite so scanty it spreads on downward like a coat of varnish over the posterior wall of the pharynx, where its characteristic tendency to induce atrophy with dryness by throttling blood vessels and glands, is exposed to view. Atrophic or dry pharyngitis, therefore, though hitherto regarded as an independent, rather intractable disease also should take its proper place as an indicator, pointing upward, to the primary focus of infection—the sphenoid sinus. Moreover, the recognition and elimination of suppurative sphenoiditis as the chief source of the film which incrusts the pharyngeal wall, opens up for the first time a definite and hopeful line of treatment for atrophic pharyngitis, inasmuch as the atrophied mucosa shows, thereafter, considerable power of regeneration.

It is of diagnostic significance looking toward the exclusion of ethmoid implication, to determine by the mirror whether or not either one of the two pathways favored by an unmixed sphenoid discharge, be followed. The route taken by a scanty secretion is apt to be marked by a streak of viscid discharge leading from the sphenoid outlet laterally downward into Rosenmüller's fossa, where it collects till it overlaps the Eustachian orifice. The other route is taken by a discharge copious enough to bridge the space to the rear edge of the septum, down which it courses to collect in the back part of the inferior meatus of the nose.

The osteum sphenoidale itself is located out of sight, nor is the outlet visible by reflection from the rear unless marked by a bead of pus or protruding polypus. However, in the rhinoscopic image, just outside the osteum, can be seen a portion, one centimeter in length, of a probe inserted in the sphenoid sinus, while a lip of the osteum is apt to be raised by the probe into the mirror's scope. As this is the best method of proving the introduction of the cannular probe, to give assurance of reliability to the diagnostic tests which follow it, I have sought to perfect the technic of the method and make it more generally feasible. Thus, to prevent slipping out of the cannular probe during the forward adjustment of the patient's head, required for rhinoscopic examination, the probe is anchored to the dorsum of the nose by a flexible wire and a piece of rubber plaster (Fig. 1); and to avoid the annoyance of having to withdraw the probe to reintroduce a cannula for the irrigation test, a combination cannula and probe of original design is used which for service as a probe is well balanced, bulbous-pointed and plainly graduated at 7-9-11 cm., and for service as a cannula, has a flattened socket with a vertical plate-like fingerpiece to aid in guiding the distal curvature in the proper vertical line. A perforation in the plate provides for the anchoring wire (Fig. 1). Having inserted the cannular probe 6.5 or 7 cm. to the anterior sphenoid wall, near to the nasal roof, above the osteum, one feels around with its bulbous end, in short steps zigzag downward but inclining more toward the septum, when suddenly it is felt to slip into the cavity as if engulfed, reaching a total distance of 8 to 11 cm. or more, measured not from the nasal spine, which is difficult to identify, but from the column just in front of the naris, where it is naturally crossed by the probe.

Confirmation of the presence of the cannular probe in the sphenoid can be felt and heard as well as seen. Tapping the sinus wall within, from point to point, not only serves to indicate a proper sphenoid contour, depth and direction, but it often elicits another characteristic which I will term the sphenoid click—a touch as if the bone were almost but not quite bare, accompanied by a leaden metallic clicking sound, a combination peculiar to the sphenoid and not produced in like degree in any other sinus. It is not caused by diseased bone but by the fact that certain areas of bone within the sphenoid naturally have little covering and are somewhat resonant. Areas of diseased or dead bone possibly



Fig. 1.—Casselberry's sphenoid cannular probe, its distal end inserted in the sinus in readiness for the irrigation test, its proximal end anchored to prevent slipping out and the rhinoscopic image, as viewed to prove its position in the osteum sphenoidale.

may be encountered, but in the presence of the "sphenoid click" the sense conveyed must be unmistakably rough and grating in order to be interpreted as due to dead bone.

The irrigation test is of the first importance in precise diagnosis, but I have found it necessary carefully to adapt the apparatus to the purpose by assembling in portable cases multiple positive and negative pressure bottles having uniform hose and couplers which fit all the cannulas and compressed air cut-offs. It is adjusted to be operated by knee

or foot pressure and the mechanism with solution is so standardized that the office assistant, by routine, can quickly fill, connect and disconnect it, which permits the operator, unassisted, to test one or more sinuses without unreasonable expenditure of time or change of position.

Records are kept of all sinus cases by sketches and notations on life-sized stock diagrams, the actual cannular probe used, with distance and curvature, being outlined on the chart in connection with the particular sinuses tested (Fig. 2). From fifty to sixty entries of this sort have been recorded under the diagnosis, in part, of suppurative sphenoiditis, the diagnosis being qualified for the reason that, in less than half the number, was the infection limited to the spheno-ethmoid group, other

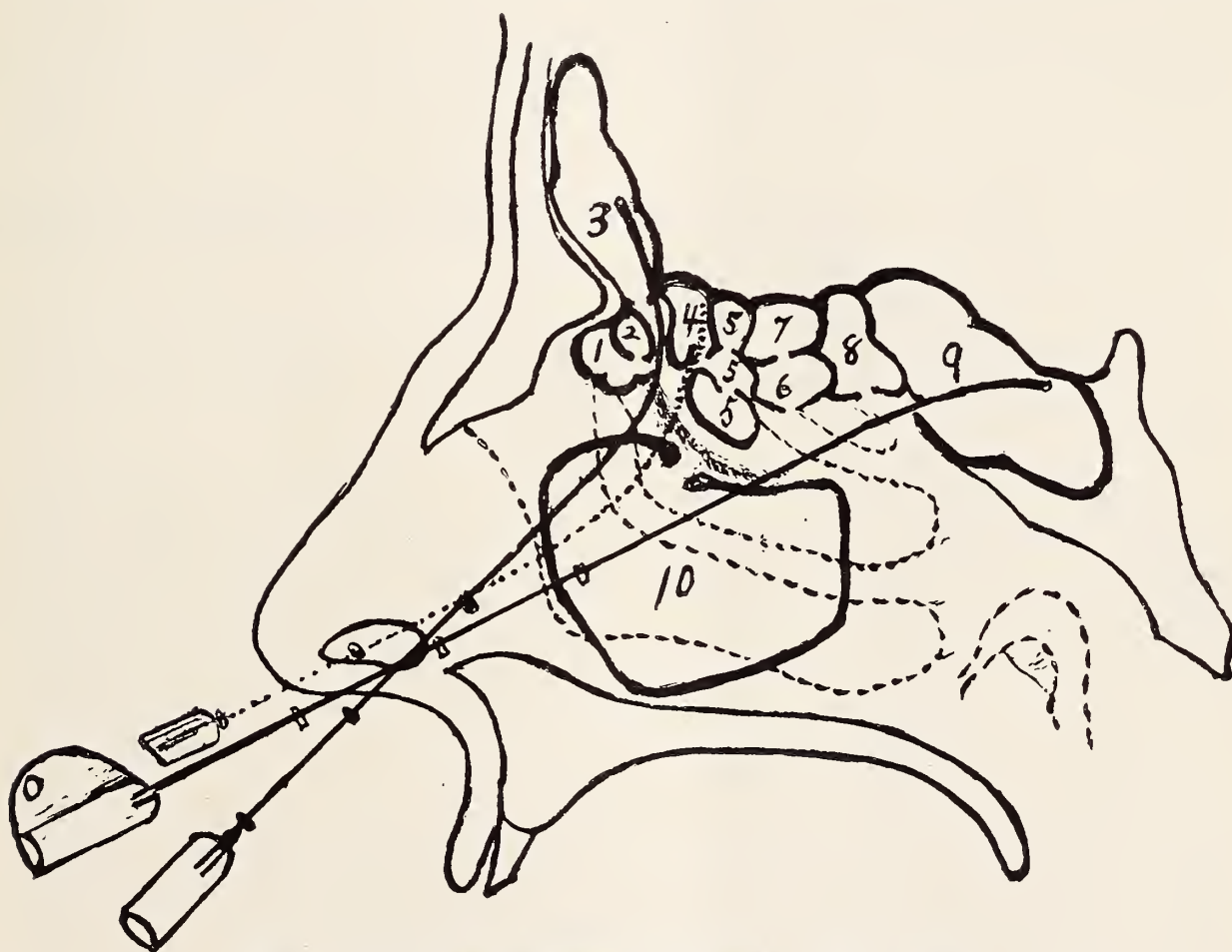


Fig. 2.—The nasal accessory sinuses.* Key to Fig. 1.

- | | |
|-----------------------------------|------------------------------------|
| 1, 2, 3, if none forsakes; | 6 the lower P. E. C., |
| Frontal cells, as Killian states, | 7 ascending P. E. C., |
| 3 mayhap the sinus makes, | 8 the cell of highest meatus, |
| 4 the frontal probe mistakes, | 9 the sphenoid (hawking screatus), |
| 5 the bulla, sections three, | 10 the antrum, first and greatest. |
| All belong to A. E. C. | |

* Any of the frontal cells (higher infundibular cells) may be absent and exceptionally one or more additional (lower) infundibular cells may be present. The frontal sinus quite commonly is formed from and represents the third frontal cell, and sometimes the second cell, although typically it develops from the frontal recess. The fourth frontal is the anterior ethmoid cell, which the frontal sinus probe is prone to enter by mistake, and then a too horizontal slant of its handle will indicate the error (Fig. 2), unless cell 4 happen to be enlarged forward in the form of a frontal bulla. A. E. C.—Anterior ethmoid cell. P. E. C.—Posterior ethmoid cells. The “cell of highest meatus” opens above the superior turbinal, but it may be rudimentary and then its position next to the sphenoid is usually taken by an additional post-ethmoid cell—the upper cell of the superior meatus.

sinuses in the remaining half having been jointly affected, and in less than one-eighth of the number was the infection limited to the sphenoid alone without involvement of the post-ethmoid cells. A study of this series leads to the conclusion that aside from antrum disease, which may

discharge backward but below, not above, the middle turbinal, and with the exclusion of adenoid growth or clefts, Thornwald's bursa and pronounced turbinated posterior hypertrophies, practically all other chronic post-nasal puruloid discharges, are due to suppurative sphenoiditis.

Headache.—The headache of suppurative sphenoiditis baffles the descriptive power of patients, who often cannot tell exactly where it is or what it is like. About one-third of my sphenoid series suffered occipito-parietal pain, the best description being given by a university professor, who said, "It is a boring pain toward the middle of the head, far back between the eyes." More often it is located in the back of the head but connected also with pain far back in the eyes, and next in order is the top of the head and side near the top or radiating from the ear and mastoid to the top of the head; so I have come to regard occipito-parietal headache as indicating exploration of the sphenoid sinus, in fact of all the sinuses, for exceptionally, I have known pain which originated in the frontal sinus to be reflected to the back of the head, and once, by an undue irrigation pressure in the sphenoid, I caused a severe pain which was referred by the patient to the front of the head. The headache is prone to manifest a daily periodicity by augmenting during the forenoon, lasting till late afternoon and ameliorating or ceasing toward evening with or without an appreciable escape of muco-pus from the nasopharynx.

One patient sought relief after enduring for months an increasing occipital and parietal headache with eye pain, when at the third daily effort a cannular probe penetrated the sphenoid sinus and liberated a fetid discharge, with prompt relief. Another, a young merchant, addicted to an incessant hawking screatus, complained, in addition to the headache, of being in a dazed mental state which impaired his business capacity, he saying that he could not think properly on account of what he called his "catarrh." A double Hajek operation for the free drainage of both sphenoid sinuses was so definitely successful in remedying his disability that I agree with Sleuder⁶ in respect to the disabling character of the headaches and with Schaeffer⁷ in the emphasis laid upon mental deterioration, despondency and incapacity for business, as serious and not infrequent symptoms of suppurative sphenoiditis. Other similar conditions observed, each in different patients of my series, were mental hebetude, lapse of memory and neurasthenic excitability.

Merely touching with cotton the site of the sphenopalatine ganglion caused patients to remark that the right spot was reached, as it excited the same kind of pain or suggestion of neuralgia as that for which relief was sought. Occasionally when, with a probe or sphenothmoid cutter, I reached the vicinity of the sphenopalatine ganglion along the postethmoid wall and adjoining face of the sphenoid sinus, the patient has exclaimed at suddenly feeling a sharp pain at one or more of these five points: the back of the head, the top of the head, the eye, the ear and upper jaw. These are also the starting points of the pain when it assumes

6. Sleuder, Greenfield: The Syndrome of the Sphenopalatine Ganglion Neurosis, Tr. Am. Laryng. Assn., 1910.

7. Schaeffer: Loc. Cit.

a somewhat neuralgic form. The ganglion distributes sensory branches to the sphenoid-ethmoid region, the anastomoses of which, through the ganglion's connection with the superior maxillary division of the fifth nerve and thence to its dental and auriculo-temporal branches, and also through the Gasserian ganglion to the ophthalmic division of the fifth nerve, account for the transfer of the painful impulses to at least four of the five points mentioned. The evidence is reasonably conclusive that sphenoid-ethmoid disease is capable, by exciting the sphenoid-palatine ganglion, of causing headache of the type described, but it should not be inferred that all sphenoid headaches originate through direct action on the ganglion, for the prompt relief afforded by the liberation of retained discharges and the analogy of pain by distention in other sinuses indicate that distention of the sphenoid sinus by fluid or gas of decomposition is capable alone of causing the same character of headache.

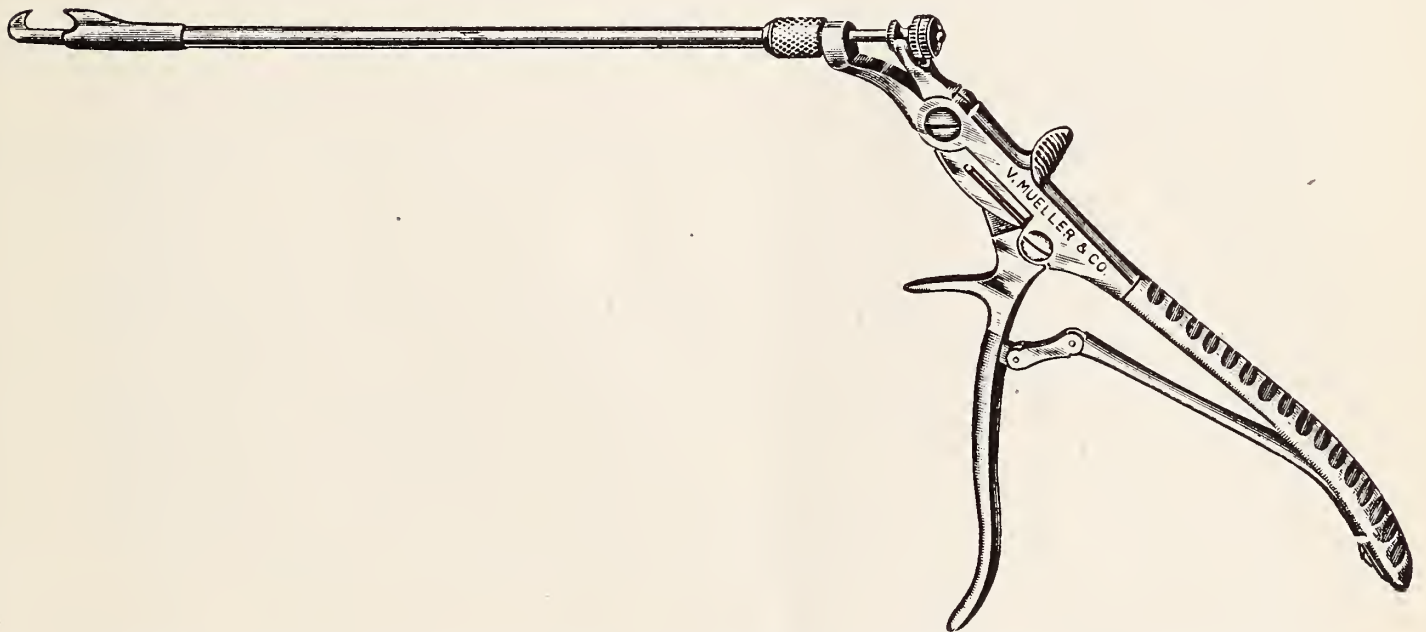


Fig. 3.—Casselberry's sphenoid-ethmoid bone-cutter—an adaptation of the author's bronchoscopic pin-cutter, to fill the need of an instrument with power and rigidity to cut bone at long range in narrow quarters and leave room for light and vision. A tubular punch forceps in the form of a double sharp hook from the grasp of which bone cannot slip and whose bite, though narrow, is clean cut. For the primary puncture of a cell, its distal blade serves as a Hajek hook but on closure it cuts instead of tearing away the cell wall, being capable of excising several pieces in succession without withdrawal to detach each piece. It is intended to be supplemented by instruments of larger grasp when space has been made available.

Asthma.—The relationship of nasal accessory sinus disease to bronchial asthma, though manifested in varying degree, is now accepted as an actual clinical fact. Not that they figure directly as cause and effect, but rather, both of them, as resultants of the same systemic dyscrasia, even the nasal complication showing signs of a deeper origin and significance than that merely of a local reaction to infection. In sphenoid-ethmoid asthmatic subjects I have repeatedly observed a rapid formation of an edematous or polypoid exudate so profuse as to seem entirely disproportionate to the local cause—traumatic or other nasal irritation—unless it were promoted by systemic conditions. The day after an operation for multiple polypi, for instance, one would find the nostrils again packed with what looked amazingly like a fresh growth of

polyps, sprung up over night. Being semi-translucent and lobulated, this exudate is not like that of cauterization or diphtheria. It separates usually within a few days, the patient perhaps reporting that he has blown out what he thought were more polyps; but it is liable to persist for weeks and to appear so much like sessile polypi as to raise the question of its possible transformation into polypi. Potassium iodid tends to limit its formation. The tendency to exudative processes in the intestines, as well as in the nose, which characterizes asthma⁸ also indicates a constitutional proclivity which may be termed an exudative diathesis and regarded as identical, at least in part, with the asthmatic dyscrasia. Nevertheless, putting the nose in a healthful condition eliminates a potent aggravating influence, and is followed, at the least, by amelioration of the asthma and, at the most, by such a reduction in the number and severity of the paroxysms that no more than a residual asthmatic tendency remains.

About one-third of the cases of suppurative sphenoiditis were asthmatic subjects; in several polypoid hyperplasia in the spheno-ethmoid region was a dominating feature, and in a few this locality was the only site of attachment of polyps, which, when large, hung toward the nasopharynx. A recurrence of asthma after long abeyance was observed to take place under the excitation of or in conjunction with an acute exacerbation of chronic sphenoiditis; and again in connection with a severe first attack of sphenoiditis. Also, having observed that the degree of benefit derivable from the surgical treatment of the nasal features of asthma is proportionate to the thoroughness of the operating, I have, of late years, supplemented former operative treatments by removing residual clusters of small polypi and polypoid hyperplasia when subsequently found in the spheno-ethmoid sulcus and within the sphenoid sinus, with the effect of gaining a further distinct reduction in the patient's residual asthmatic tendency.

TREATMENT

The dominant principle of the treatment of suppurative sphenoiditis is free drainage, or, if not free, then as nearly so as may be consistently possible. In this alternative lies the difference between the palliative and radical treatment and the distinction between a dangerous and a safe operation.

The palliative treatment, which for the milder cases may prove to be curative in a limited sense, is based on the principle that if the posterior nares and naso-pharynx be kept clear of accumulated sphenoid discharge, the catarrhal symptoms and irritation exterior to the sphenoid outlet will tend to subside and the sphenoid drainage be improved in so far as swelling of the nasal tissue outside the sinus had impeded it. The same principle must have pertained to the amelioration of the symptoms secured in the past through restoration of nasal space by means of cauterization of the middle turbinal, middle turbinectomy and correction of septal deformities, for it is certain that in the years before

8. von Strumpell: Medizinische Klinik.

we gave consideration to suppurative sphenoiditis as the cause, our treatment of the symptoms was not wholly fruitless. As the cleansing process must be long and regularly maintained, it is essential to instruct the patient in the self-application of a simple but efficient method—requirements which, in this affection, are met by the post-nasal type of douche rather than by an atomizer or anterior douche; and by an alkaline vaso-constrictor solution, weak enough to be devoid of irritating effect, rather than by strong astringent or antiseptic fluids; e. g.:

R

Menthol	0.2
Olei Eucalypti	1.
Olei Gaultheriæ	1.
Sodii carbonatis (not bicarb.)	4.
Sodii boratis	4.
Glycerini	30.
Aquæ dist., q. s. ad	100.

M. et Sig. Dilute by adding one teaspoonful to one-half glass of water (1 to 25) for use as a post-nasal wash.

Irrigation of the sinus, already described as a diagnostic test, is serviceable as a remedy, especially during acute exacerbations. The exhaust method of evacuating the sinus is simpler but not always as efficient.

The radical treatment is necessarily surgical and the approach to the sphenoid sinus may be made by one of three routes:

1. Through the natural channel of the nose, augmented in breadth by middle tubinectomy—the preferable route when disease of the sphenoid group is the major element.

Twenty-four intranasal operations, all by this route, on seventeen private patients have embraced the following:

(a) Operative enlargement of the osteum sphenoidale by curette or evulsor, supplemented by removal of polyps and polypoid tissue from the sphenoid sinus and other parts—five times on four patients, on account of asthma, recurrent bronchitis and catarrhal symptoms.

(b) Excision of a portion of the anterior sphenoid wall, but without embracing the post-ethmoid cells—four times on three patients for similar reasons.

(c) Reasonably complete Hajek operation which consists of ablation of the post-ethmoid cell and removal of the party wall between it and the sphenoid, thus providing permanently the largest feasible outlet for the sphenoid sinus—seven times on four patients, respectively, for mental daze, asthma with polyps, atrophic disease and headache.

(d) Partial Hajek operation nine times on seven patients, for similar and additional reasons, including headache, migraine, exophthalmos and post-nasal discharge.

Although occasionally I have deemed it expedient to operate under general ether narcosis, as a rule only local anesthesia is employed, which obviates the need of a time limit. The patient, after realizing that he is not being hurt, sits contentedly, somewhat reclining, on a table which is adjustable, at need, for the recumbent position without interruption of

the operation. Free immediate hemorrhage, encountered but once, from a septal branch of the naso-palatine artery which crosses the sphenoid wall, was controlled by solid nitrate of silver and temporary compression, secondary hemorrhage being prevented by the use, always, during the first night, of the author's rubber tampon.

Several classed as "partial Hajek operations" were, in fact, completed to the extent designed, not having been intended for typical Hajek procedures. In others, however, the operating was discontinued short of the desired extent in obedience to a self-imposed rule of safety, which is, to safeguard the near-by vital centers by stopping the operation whenever, by confusion or disappearance of surrounding landmarks, the precise anatomical relations can no longer be determined; for, not only are the cells and other guiding features of the ethmoid labyrinth subject to variation in conformation and arrangement, but some of them will have been removed in the course of the operation, which lends a different aspect to the rest. Resection of the middle turbinal is necessarily the first step, and the bulla, with other anterior ethmoid cells, if found diseased, are also eliminated on the way to the posterior group, and then the convex median wall of the group of post-ethmoid cells comes into view. I call it the back-bulla, as keeping this resemblance in mind is an aid in distinguishing it in the foreshortened perspective from a ledge-like remnant of the middle turbinal. The post-ethmoid group is dealt with as one structure, for one cannot know, nor is it essential to know, how many individual cells it may contain, until it is laid open, which for the purpose classed as a "reasonably complete Hajek operation" involves removal of approximately the lower median quarter-section of the whole group, together with a corresponding portion of the spheno-ethmoid party wall, thus forming an aperture into the sphenoid sinus capable of further enlargement. When the antrum is jointly affected and has not previously been operated on, it can be freely opened through the middle meatus as an incident of the same operation, with the reservation, however, that additional drainage through the inferior meatus may be required.

The second and third routes to the sphenoid sinus are not under present consideration, but may be mentioned, as follows:

2. Through the mouth and upper jaw, across the antrum to the sphenoid recess in the nose and thence to the sinus—preferable, among other conditions, when disease of the antrum is the major element and of a nature to indicate this particular operation.

3. Through the orbit and adjoining side of the external nose—preferable among other conditions when the frontal sinus is the major element.

I have experienced no accidents nor any harmful effects whatever consequent upon the spheno-ethmoid operation, a fact attributable to the "rule of safety," together with the avoidance of hurry and display. Nor has observance of the rule impaired the final results, which have averaged fully up to expectations; for when necessary the main operation has been supplemented by minor measures during the after treatment.

What are the end-results or to what extent will the sphenoid wall and post-ethmoid cells be regenerated to reassume their poor estate? In the exudative diathesis, to an astonishing extent, so that three months later one might scarcely know the cells had been opened. Therefore, not infrequently one must excise the equivalent of another quarter section or more; but eventually they do remain widely open, and when the anterior group has been jointly operated on, the remains of the cells form a vaulted nasal roof as if supported by a series of Gothic arches. It is not always essential to the purpose to attain this ideal result, but by watchfulness and persistency it always is attainable.

Are the patients then cured? If cure shall be defined as a total suppression of disordered secretion and other symptoms, it can be said to follow only when the focus of infection is exceptionally limited and accessible. But to approximate ordinary conditions, a less rigid standard of cure will suffice, few individuals being altogether free from disordered secretion. If, then, nine-tenths or more of the distress and disability incidental to the post-nasal discharge be eliminated, material mitigation of the asthmatic feature afforded and the headache, with possible mental deterioration, wholly remedied, it amounts to a practical cure. In this sense a large majority of speno-postethmoid sinus infections of the attenuated types specified are curable by the methods described. Arduous, painstaking effort and perseverance may be requisite, but the results are well worth while.

LAW AND MEDICINE *

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May 29, 1877, the first act to regulate the practice of medicine in the State of Illinois was passed and took effect July 1, 1877. Prior to that time any one who desired to do so could practice medicine, or attempt to do so, without any legal regulation or restraint and with no other qualification than that he had heard the "call" to practice.

The act referred to provided how persons might be admitted to practice medicine, as follows:

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS REPRESENTED IN THE GENERAL ASSEMBLY; That every person practicing medicine, in any of its departments, shall possess the qualifications required by this act. If a graduate in medicine, he shall present his diploma to the State Board of Health, if such Board of Health shall be established by law or Board of Examiners herein named, for verification as to its genuineness. If the diploma is found genuine and if the person named therein to be the person claiming and presenting the same, the State Board of Health, if such Board of Health shall be established by law or the Board of Examiners, shall issue its certificate to that effect signed by all the members thereof, and such diploma and certificate shall be conclusive as to the right of the lawful holder of the same, to practice medicine in this State. If not a graduate, the person practicing medicine in this state, shall present himself before said

* Read before the Madison County Medical Society, Sept. 1, 1911.

board and submit himself to such examinations as the said board shall require; and if the examinations be satisfactory to the examiners, the said board shall issue its certificate in accordance with the facts, and the lawful holder of such certificate shall be entitled to all the rights and privileges herein mentioned.

Examinations may be in whole or in part in writing, and shall be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner.

The State Board of Health, if such Board of Health shall be established by law, or Board of Examiners may refuse certificates to individuals *guilty of unprofessional or dishonorable conduct*, and they may revoke certificates for like causes. In all cases of refusal or revocation the applicant may appeal to the body appointing the Board.

The penalty for practicing medicine and surgery in Illinois without complying with the provisions of the act was a fine of not less than \$50 nor more than \$500, or imprisonment in the county jail for a period of not less than thirty days nor more than 365 days, or by both such fine and imprisonment for each and every offense. But it was expressly provided that the provisions of the act did not apply to those who had been practicing medicine for ten years within the state.

The Supreme Court of Illinois, in the prosecution of one George J. Williams of Cook County, for practicing medicine without being licensed, sustained the Act and held it was constitutional in the following words:

Within the regulation of the practice of medicine must necessarily fall the right to determine, or to provide means for the determination of, who may lawfully exercise the right to practice medicine, and to establish such rules as shall determine what shall and what shall not be regarded as legitimate practice of the profession. The Statute was passed to *protect the health and promote the welfare of society, and to protect it from imposition and fraud*. The purpose was to prohibit and punish fraud, deception, charlatanry and quackery in the practice of medicine,—to prevent empiricism and bring the practice of medicine under such control that, as far as practicable, *the ignorant and unscientific practitioner shall be excluded*.

Again, in the case of the People vs. Blue Mountain Joe, the Supreme Court sustained the Act as constitutional. The court said:

It is the common exercise of legislative power to prescribe regulations for the securing the admission of *qualified persons* to professions and callings demanding special skill; and nowhere is this undoubtedly valid exercise of the police power of the State, more wise and salutary, and more imperiously called for, than in the case of the practice of medicine.

The practice of medicine and surgery may be legally controlled in order *to promote the public health and welfare of society*, and the primary object of the law is not to favor the doctors, but to protect the patients.

Since the act of 1877 was passed, various amendments have been made to the law for the purpose of improving it and raising the standard higher and higher from time to time, until now the qualifications of those practicing medicine in the State of Illinois are as follows:

LATEST ACT RELATING TO REQUIREMENTS OF APPLICANTS FOR LICENSE TO PRACTICE
MEDICINE IN THE STATE OF ILLINOIS

Approved May 29, 1911; in force July 1, 1911

The State Board of Health shall require that every applicant for a license to practice medicine and surgery in all their branches, in the State of Illinois (excepting only those physicians who may be entitled to a license under section 3a of the Act to which this act is an amendment) shall present:

1. Proof satisfactory to said board that he is a graduate of a medical college in good standing, as may be determined by the state Board of Health, and

2. Pass, before said board, an examination embracing those general subjects and topics, a knowledge of which is commonly and generally required of candidates for a degree of doctor of medicine, by reputable medical colleges in the United States:

3. *Provided*, that the State Board of Health, may, in its discretion, admit to examination a student who has completed, in a medical college determined in good standing, the course of instruction required by the rules of said board in medical colleges determined in good standing, and who has passed the examinations of said college, but has not received a diploma;

4. *Provided*, further, that the said medical college shall require as a prerequisite to graduation, a course of study extending over at least five calendar years.

5. And if said student pass the examinations of said board it may issue to him a limited license authorizing him to practice medicine and surgery in a hospital approved by said board and in no other place whatsoever in the State of Illinois.

6. Which limited license shall remain in effect for a period not exceeding eighteen months from the date thereof, and the State Board of Health may then issue to the applicant the regular permanent license of the board without further examination or fee, on the condition that the applicant present a diploma from the medical college in which he had completed a course, as prescribed by the rules of said board, previous to the issuance of the limited license hereinbefore mentioned, and otherwise complies with the requirements of the board and with the provisions of the Act to which this Act is an amendment.

The law also provides that certificates may be refused or revoked.

The State Board of Health may refuse to issue certificates provided for in this Act to individuals:

1. Who have been convicted of the practice of *criminal abortion*.

2. Or who have *by false or fraudulent representation obtained or sought to obtain practice in their profession*.

3. Or *by false or fraudulent representation of profession, have obtained or sought to obtain money or any other thing of value*.

4. Who advertise under names *other than their own*.

5. Or for any other *unprofessional or dishonorable conduct*, and the board may revoke such certificates for like causes.

Those who are regarded as practicing medicine are defined as follows:

"Any person shall be regarded as practicing medicine, within the meaning of this Act, who shall treat or profess to treat, operate on, or prescribe for any physical ailment or physical injury to or deformity of another;

Provided, That nothing in this section shall be construed to apply to the administration of domestic or family remedies in case of emergency, or to the laws regulating the practicing of dentistry or pharmacy. And this Act shall not

apply to surgeons of the U. S. Army, Navy or Marine-Hospital Service in the discharge of their official duties, or to any person who administers to or treats the sick or suffering by mental or spiritual means, without the use of any drug or material remedy."

The penalty prescribed for practicing medicine or surgery or treating human ailments in Illinois without a certificate issued by the State Board of Health, as provided by law, is a fine in the sum of \$100 for first offense, and \$200 for each subsequent offense, same to be recovered in an action of debt, in a court of competent jurisdiction.

Any person filing or attempting to file as his own, the diploma or certificate of another or a forged application of identification, shall be guilty of a felony and on conviction shall be subject to such fine and imprisonment as are provided for the crime of forgery.

On conviction of either of said offenses as a part of the judgment, the court may order that the defendant be committed to the county jail of the county until the fine and costs be paid, and on failure to pay the same the defendant shall be committed under the order of the first offense not more than thirty days, and for each subsequent offense not more than ninety days; the right of appeal from the decision of the lower court is granted to the person charged with illegally practicing medicine and also to the State Board of Health.

The law of the State of Illinois has set a high standard for the qualifications of those who would practice medicine, from the legal point of view, but from the standpoint of the medical profession, the man who merely comes up to the standard of the law, who is only able to pass the examination and tests provided for all who would practice medicine, is but a novice, stands at the foot of the ladder and has merely begun the work which may make him a most useful citizen and benefactor of mankind.

The doctor's ideal should be high, for to a large extent the welfare of the community depends on his knowledge, skill and devotion to duty. While he deals primarily with the human body, yet his work directly and materially affects the mind and to a large extent the soul of his patient. He should be well equipped and thoroughly devoted to his work in order to accomplish the beneficent results contemplated by the law.

As the law permits no one but a doctor to practice medicine and grants to him high privileges and exempts him from many of the ordinary duties of citizenship, it likewise imposes corresponding duties and obligations on him.

Recognizing his special qualifications to speak on subjects pertaining to the body and mind of man, the law permits the doctor to speak as one of authority, as an expert on questions involved in legal and human affairs; *his word is the law* in most insane cases, personal injury and physical and mental disabilities, generally.

If the doctors of a community pronounce a case to be one of small-pox, yellow fever, cholera or the like, and they declare a quarantine necessary, without trial by court or jury, the law accepts the judgment of the doctors and enforces their judgment by its strong arm, the police, the

sheriff and all his power, and if need be with the military arm of the state and nation.

Our government is based on a written constitution, prepared by able men, scholars and statesmen, whose necks had felt the heels of tyranny, and so wisely provided checks against the encroachments on their liberty by the government; and so they declared that no one should be deprived of life, liberty or property without due process of law, and for that purpose established courts, high and low, great and small, but always with a limitation of their powers, and preserved the right of the individual to be tried by a jury when charged with a crime. Experience has taught that all laws and ordinary safeguards must be suspended and temporarily held in abeyance in case of emergencies, such as epidemics, which occasionally afflict the people of our country. The law of overruling necessity then applies and into the hands of the doctors temporarily consigns the powers of the court and juries. He then holds in his hands the powers of the state, the health, lives and welfare of the people; but to the great credit of the medical profession it can be truthfully said that the doctors of this country have always promptly responded to the call of duty and have performed their work faithfully, heroically and well, in every crisis which we have encountered.

Every great epidemic has developed great doctors, and they have shown as high qualities of bravery as our great heroes of the Army and Navy. No great army could long remain in fighting trim if it were not for the sanitary precautions and provisions made by the medical staff, and many lives are saved after battle by the aid of the surgeons and their staff of assistants.

The greatest material work ever attempted by any nation is the digging of the Panama Canal; the French failed in its undertaking and squandered many millions of dollars, largely because it failed to send a corps of experienced physicians to make the Isthmus of Panama sanitary before it sent its army of engineers and working men there to dig the canal. The United States, profiting by the mistakes of the French, spent many months in the work of sanitation on the Isthmus, before it began the physical work of digging the canal, and to the doctors belong the credit of rendering the canal as healthful, according to statistics, as the city of New York.

But it is not in a large way and on a great scale, but rather in the private and more humble walks of the profession that the doctor performs his greatest services.

The doctor being licensed to practice his profession by the state, becomes in a sense an officer of the state, and like the members of the bar, may be required to give his time and talents for the benefit of the state, and so the most eminent physician may be called to testify in behalf of the people of the State of Illinois in the most important criminal case, and for his services he can only legally demand the same fees that the law allows the ordinary witnesses. To the active practitioner of medicine this may seem a very great hardship, but when he considers the fact that the state has conferred exclusive privileges on him, he will readily under-

stand and appreciate his duty toward the public to aid in the promotion of justice and insure the peace and good order of society. In a recent case the Supreme Court held that it was a contempt of court for a physician to refuse to testify and answer questions calling for his opinion, on the ground that special compensation had not been paid nor assured to him.

One of the serious grounds of criticism of the medical profession grows out of the practice of some experts who testify only on the side of the largest fees and whose conduct causes them to be generally charged with being controlled in their judgment by sordid financial interest. The criticism is not entirely without foundation, but in most cases where reputable physicians are called as witnesses, their testimony is most truthful, reliable and dependable and based on their experience and that of eminent men of their profession. The courts are generally materially assisted by the members of the medical profession in upholding the law, administering justice and punishing criminals.

It is not in the larger and more heroic fields of action—"the scenes of war and pestilence"—where the average doctor is seen at his best and where his greatest work is done. *It is in the quiet sick-room of the every-day patient* where the doctor does his greatest work, *often unnoticed, sometimes forgotten and frequently unpaid.* The general health of the community largely depends on the intelligence, ability and devotion to duty of the medical fraternity.

The law wisely does not require impossibilities of doctors, but it does demand that he bring to the case in hand that degree of knowledge, skill and care which a good physician and surgeon would bring to a similar case under like circumstances. He must not treat a patient as a quack or unlicensed physician might treat one; he must give proper treatment, for that is the object of the law which licenses the doctor to practice and forbids all others from so doing.

Where a physician in the treatment of a patient uses reasonable skill, he cannot be held liable, although the result of the treatment is not as favorable as the patient might have anticipated.

Where the patient desires or consents that an operation be performed and unexpected conditions develop or are discovered in the course of the operation, it is the duty of the surgeon, in dealing with these conditions, to act on his own discretion, making the highest use of his skill and ability to meet the exigencies which confront him, and in the nature of things, he must frequently do this without consultation or conference with anyone except perhaps other members of his profession assisting him. Emergencies arise, and when a surgeon is called it is often found that some action must be taken immediately for the preservation of life or health of the patient, where it is impracticable to obtain the consent of the ailing or injured one or anyone authorized to speak for him. In such an event, the surgeon may lawfully, and it is his duty to, perform such operation as good surgery demands, without such consent.

But where the emergency does not exist, the consent of the patient is a legal prerequisite to an operation where the patient is in possession of his faculties and well enough to consult about his condition without dangerous consequences to his health; where no emergency exists, making

it impracticable to confer with him, or requiring immediate action for the preservation of life and limb, the consent of the patient must be obtained. A surgeon may not perform a major operation on a patient under ordinary conditions without the consent of the patient, and the Supreme Court of Illinois sustained a judgment against the doctor who removed the ovaries and uterus from a woman without her consent and without the consent of her husband, she being mentally afflicted so as to be incapacitated to give her consent.

A physician should not only be skilled in the practice of medicine and the performance of surgical operations, but he should be the highest and best type of man, and he should be the exponent in his professional and private life, of all that is moral and upright and that tends toward the higher life. Owing to the sacred and confidential relations which exist between physician and patient, he holds within his keeping the honor and reputation of many persons. And a man who deliberately violates that sacred trust is unworthy to practice medicine within or without the State of Illinois.

The object and aims of the Madison County Medical Society should be to constantly raise the standard of the medical profession so that the greatest possible good may be accomplished by the physicians and surgeons of this community. And in your noble work properly and faithfully performed, you are sustained by the law and have the support, sympathy and good will of the members of the legal profession and the community as a whole.

DISCUSSION

THE PRESIDENT: Discussion by Mr. Morgan Le Masters.

MR. MORGAN LE MASTERS, Granite City: *Mr. President, Gentlemen of the Medical Society of Madison County:* Some few weeks ago your secretary appeared in my office and I pledged him that I would be here today, and I am here.

I asked Mr. Burton just before he read that excellent paper to you what we, who were to discuss the matter, were supposed to do, and he said that he presumed, to save him from the knives of the physicians and surgeons who would be here.

First, before referring to any point brought out in this paper. I was made to think about many things that I have read in the papers about the American Medical Association and the League for Medical Freedom that were in conflict in Washington, D. C., in the United States Senate, when Senator Owen, of Oklahoma, introduced a bill in the Senate for the purpose of creating a department of health in the Federal Government, and as I understand it, that bill was made up professedly for the American Medical Association, and was promoted by that association. On the other hand there is an organization in the United States somewhere called the League for Medical Freedom.

Now, of course, the American Medical Association with its officers and its power can reach up to the American Congress and there through its power create laws that will reach down into Madison County, and every County in every State in the United States, and affect you men in your property and in your profession. And it behooves, that in your association and in your professional work, you keep a careful eye open upon what is being done over yonder and whether or not there are laws being enacted there for the purpose of benefiting a certain school of medicine. Now I don't know whether you are all of one school here or not, I don't know about that, and it may be that you are not. There are schools and schools of medicine as I understand it in this country and so may we all very

prudently say, what Shakespeare once said, "there is nothing good or bad except thinking makes it so." I believe that there is good in every school of medicine, that is they have some good points. The Great Healer and the Great Teacher said one time, the truth will make you free, and you men who practice medicine, if you get to the truth of the laws of the human anatomy or the human body, and administer that truth, why the truth will free you. But I am just putting this in now that you may study carefully those laws. I don't like that law of Senator Owen's. Some of you may have liked it, but it seemed to me that it was exclusive in one sense and inclusive in another. I would like to have you get a Congressional Record and read it; it would be worth your while to see how the American Medical Association and those promoting Federal Laws, come into the States and govern a board that is to determine what shall be, determine the cause of certain diseases and what is the best remedy for those diseases. Then that board with the hand of the government, will distribute all over this country under government expense, that literature that that particular board or that particular school may think is best for the public.

Law and medicine. What can the medical profession legally do in the promotion of law, in the helping to enforce the law. As you understand that paper you are clothed with power, exclusive power, and as the law imposes upon you certain obligations it also imposes certain demands that are equally important to the public.

Here is a physician who is called into a home as was suggested here a while ago and he pronounces it a case of smallpox or some other infectious or contagious disease that under the laws of the state or city requires some precaution that the physician is responsible for. That is, if you have labeled on the door smallpox, that you are not always willing, or some physicians are not always willing, that some other man shall go in there and help to determine whether that is smallpox or not. Now, I am not such an old man but that I remember that disturbances have arisen in the profession because of those cases. I believe that the meeting together like this, in these associations like you have to-day, getting in touch and association with one another, is helpful.

In many matters there is some jealousy, I wouldn't like to say this of many physicians, but in a great many of these cases where the public becomes interested, it becomes the duty of the physicians of the city, county and state to combine their efforts and their skill to help the public, to relieve the public, and forget all about their professional jealousies for that day.

The President: Mr. M. D. Powell, Attorney. Dr. Fiegenbaum: I know my friend Mr. Powell will pardon me for interrupting just at this time.

Gentlemen, Mr. Powell, who is about to address us is the son of the old-time veteran, Dr. Powell, of Collinsville. In coming to this county in 1870 I found Doctor Powell's office in Collinsville. A little later when I joined the Madison County Medical Society I found Doctor Powell one of the able, energetic and enthusiastic members of the old Madison County Medical Society. A man who was always on hand; always ready to promote the cause of the medical profession, and it is materially fit and proper that we have with us to-day a son of a member of the old guard.

The old Madison County Medical Society, as you know, encountered a storm, that storm soon became a gale in which the old-time Madison County Medical Society suffered a shipwreck. But when the ship went down, Doctor Powell was standing at the side, holding with one hand to the rail of the ship and with the other flying the flag.

MR. M. D. POWELL, Attorney, Collinsville. *Mr. President and Gentlemen:* In being called upon to address the Madison County Medical Association to-day it is indeed with the sincerest and keenest pleasure. I desire to thank your president and your secretary for the honor you have bestowed upon me. I consider it an honor for two reasons. First, because of the distinguished gentlemen who are present this afternoon to hear what I might have to say, for the excellent organization which I find they have, and of which I was unaware, and for the honorable profession which they represent. And secondly, because of the fact

that I am the son of a physician who was at one time a member of this association and with whom some of you gentlemen during his lifetime have mingled, I say I am very much honored this afternoon in being called upon to address this body.

I might not be able to confine myself to remarks in discussion upon Mr. Burton's paper inasmuch as I didn't know just exactly what points Mr. Burton would take up. But the subject, law and medicine, is indeed a very wide field and therefore I have selected one or two things upon which I will try to say something this afternoon.

While I was comparatively young, my father was in his prime in practicing medicine in this county and I can well remember how different little things, incidents that happened, lead me to believe that he was a man who was very well posted on the law, possibly as well posted as some lawyers are. It is probably due to the fact that the status of the physician of forty or fifty years ago was quite different from that of the physician of to-day. In those days the physician was the medical advisor and the general advisor of nearly every family into which he went to attend to the physical ailments. They told him their troubles; it didn't matter what it was, they told the doctor about it, and especially if it was in a small country town where there were no lawyers to consult. So, the doctor of yesterday was entirely different from the doctor of to-day, and some of them, usually in the small towns, found it necessary to act as the legal advisor to some of their patients to a certain extent. But to-day it is not as necessary for a doctor to know as much about law in that regard as it was then. Therefore I conclude that you gentlemen in order to succeed as physicians care only to know as to what the law is regarding the practice of medicine.

As to that point, I think one recommendation to you possible will be the best. That is, in your every-day practice, to familiarize yourselves as much as possible with the statutes of our state governing the practice of medicine. You can see the statutes, you can note and keep in touch with the statute laws of the State of Illinois and thereby be very well posted as to the law in which you are particularly interested as physicians. The position of the lawyer of to-day is quite changed in several respects from that of yesterday, or the position of forty or fifty years ago. Nearly all doctors as a rule engaged in a general practice, but to-day, I believe, you don't find that that is the case. Because of the number of fads, different isms, and patent remedies and things which interfere with legitimate practice of medicine, you are almost compelled to specialize upon some particular branch of the medical profession.

I don't want to go into a lengthy discussion of this subject this afternoon. I am satisfied that the gentlemen who have preceded me and those who are yet to come are eminently more qualified to take up the intricate phases of this question of the relation of law to the medical profession, and if I can only say one or two little things that some few of you might take away with you this afternoon and remember I shall feel well satisfied with my effort here to-day. I shall not discuss the higher and more intricate points relative to the subject, but will simply mention one or two of the common, every day things which a physician should bear in mind relative to the law.

One of the foremost of these common things is that he should keep his books, his accounts and his records in first class shape. There is no telling when any of you may be called to bring your books and records into court and offer them in evidence, and if they are in first class condition, you will undoubtedly find that the lawyer can use them to a much better advantage and that you will be well paid for using a little time each day or every few days in keeping your books and records in proper shape. One of the most distressing situations which a lawyer experiences is when he attempts to prove a certain fact, or certain set of facts, by means of a set of books, which are nothing but a conglomerate mass of figures and notes from which he cannot make head or tail. The physician if he desires to come into court and collect his just fees is required to introduce his books of original entry. These in particular are the ones I refer to that should be kept in first class condition. It may be that some of you have never come into

court for this purpose, for the purpose of suing to collect some of your debts. I, of course, don't know how you feel about that question, but, I believe, it is a well known fact that a doctor has a larger number of bad debts on his books than any other man in business. I believe he loses more of his hard earned money than any man in business. And I believe it should be his duty, every doctor's duty, to try in so far as he is able, to discourage the practice of some to impose upon him for gratuitous services. When a man refuses to pay his just debts never hesitate to take him into court and make him pay what is properly due you. I believe the time will come when this certain class of people will be driven out. Of course, I understand, the doctor is not in a position to refuse his services to suffering humanity, but I believe that the physician should choose those who are worthy of his charity in bestowing his services gratuitously.

Another matter that I simply want to call your attention to for a moment is the appearance or demeanor when called into court. A physician may be called into court as a witness in a good many instances and under a good many circumstances. I think every man should, the physicians included, never allow anything at any time to induce him to deter for one moment, while under oath, from a statement of the truth and nothing but the truth. I have here a short article which I want to read which illustrates the position very clearly in which a physician was placed because he gave false testimony.

This is an article under the head of the "Cross-examination of the Perjured Witness." I believe you will find it interesting. During the lifetime of Dr. A. E. Ranney there were few physicians in this country who were so frequently seen on the witness stand, especially in damage suits. So expert a witness had he become that Chief Justice Van Brunt, many years ago, is said to have remarked, "Any lawyer who attempts to cross-examine Dr. Ranney is a fool." A case occurred a few years before doctor Ranney died, however, where a failure to cross-examine would have been tantamount to a confession of judgment, and the trial lawyer having the case in charge, though fully aware of the dangers, was left no alternative, and as so often happens where "fools rush in" made one lucky "bull's eye" that is perhaps worth recording.

It was a damage case brought against the city by a lady who, on her way from church one spring morning, had tripped over an obscure encumbrance in the street, and had, in consequence, been practically bedridden for the three years leading up to the day of trial. She was brought into the court room in a chair, and was placed in front of the jury, a pallid, pitiable object, surrounded by her women friends, who acted upon this occasion as nurses, constantly bathing her hands and face with ill-smelling ointments and administering restoratives, with marked effect upon the jury.

Her counsel, Ex-Chief Justice Noah Davis, claimed that her spine had been permanently injured, and asked the jury for \$50,000 damages.

It appeared that Dr. Ranney had been in constant attendance upon the patient ever since the day of her accident. He testified that he had visited her some three hundred times, and had examined her minutely at least two hundred times in order to make up his mind as to the absolutely correct diagnosis of her case, which he was now thoroughly satisfied was one of genuine disease of the spinal marrow itself. Judge Davis asked him a few preliminary questions, and then gave the doctor his head and let him "turn to the jury and tell them all about it." Dr. Ranney spoke uninterruptedly for nearly three quarters of an hour. He described in detail the sufferings of his patient since she had been under his care, his effort to relieve her pain, the hopeless nature of her malady. He then proceeded in a most impressive way to picture to the jury the gradual and relentless progress of the disease as it assumed the form of creeping paralysis, involving the destruction of one organ after another until death became a blessed relief. At the close of his recital, without a question more, Judge Davis said in a calm but triumphant tone, "do you wish to cross-examine?"

Now the point in dispute—there was no defense on the merits—was the nature of the patient's malady. The city's medical witnesses were unanimous that the lady had not, and could not have, contracted spinal disease from the slight

injury she had received. They styled her complaint as "hysterical" existing in the patient's mind alone, and not indicating nor involving a single diseased organ; but the jury evidently all believed Dr. Ranney, and were anxious to render a verdict on his testimony. He must be cross-examined. Absolute failure could be no worse than silence, though it was evident that, along expected lines, questions relating to his direct evidence would be worse than useless. Counsel was well aware of the doctor's fertility of resource, and quickly decided upon his tactics.

The cross-examiner first directed his questions toward developing before the jury the fact that the witness had been the medical expert for the New York, New Haven, and Hartford Railroad thirty-five years, for the New York Central Railroad, forty years, for the New York & Harlem River Railroad twenty years, for the Erie Railroad fifteen years, and so on until the doctor was forced to admit that he was so much in court as a witness in defense of these various railroads, and was so occupied with their affairs, that he had but comparatively little time to devote to his reading and private practice.

Counsel (perfectly quietly): Are you able to give us, Doctor, the name of any medical authority that agrees with you when you say that the particular group of symptoms existing in this case points to one disease and one only?

Doctor: Oh, yes. Dr. Erskine agrees with me.

Counsel: Who is Dr. Erskine, if you please?

Doctor (with a patronizing smile): Well, Mr. ———, Erskine was probably one of the most famous surgeons that England ever produced. (There was a titter in the audience at the expense of counsel.)

Counsel: What book has he written?

Doctor (still smiling): He has written a book called "Erskine on the Spine," which is altogether the best-known work on the subject (the titter among the audience grew louder).

Counsel: When was this book published?

Doctor: About ten years ago.

Counsel: Well, how is it that a man whose time is so much occupied as you have told us yours is has leisure enough to look up medical authorities to see if they agree with him?

Doctor (fairly beaming on counsel): Well, Mr. ———, to tell you the truth, I have often heard of you, and I half suspected you would ask me some such foolish question; so this morning after my breakfast, and before starting for court, I took down from my library my copy of Erskine's book, and found that he agreed entirely with my diagnosis in this case. (Louder laughter at the expense of counsel, in which the jury joined.)

Counsel (reaching under the counsel table and taking up his own copy of "Erskine on the Spine" and walking deliberately up to the witness): Won't you be good enough to point out to me where Erskine adopts your view of this case?

Doctor (embarrassed): Oh, I can't do it now; it is a very thick book.

Counsel (still holding out the book to the witness): But you forget, Doctor, that thinking I might ask you some such foolish question, you examined your volume of Erskine this very morning after breakfast and before coming to court.

Doctor (becoming more embarrassed and still refusing to take the book): I have not time to do it now.

Counsel: Time! why there is all the time in the world.

Doctor: (No answer.)

Counsel and witness eye each other closely.

Counsel (sitting down, still eyeing witness): I am sure the court will allow me to suspend my examination until you shall have had time to turn to the place you read this morning in that book, and can reread it now aloud to the jury.

Doctor: (No answer.)

The court room was in deadly silence for fully three minutes. The witness wouldn't say anything, counsel for plaintiff didn't dare to say anything, and counsel for the city didn't want to say anything; he saw that he had caught the witness in a manifest falsehood, and that the doctor's whole testimony was dis-

credited with the jury unless he could open to the paragraph referred to which counsel well knew did not exist in the whole work of Erskine.

At the expiration of a few minutes, Mr. Justice Barrett who was presiding at the trial, turned quietly to the witness and asked him if he desired to answer the question, and upon his replying that he did not intend to answer it any further than he had already done, he was excused from the witness stand amid almost breathless silence in the court room.

After a ten days' trial the jury were unable to forget the collapse of the plaintiff's principal witness, and failed to agree upon a verdict.

Now gentlemen, I trust that the speakers who are to follow will do amply more justice to the subject than I can, therefore, I will close.

I thank you.

THE PRESIDENT: Mr. Boynton, of Alton.

MR. WM. P. BOYNTON: *Mr. Chairman and Gentlemen of the Medical Profession:*

It isn't often that we lawyers get a chance at you doctors in flocks, so to speak. We have been accustomed heretofore to take you one at a time on the witness stand, and by that panacea for all legal ills, Expert Testimony, endeavor to show that John Doe has been suffering from an exaggerated ego; or that Richard Roe was the luckless victim of brain storm.

Wherefore, it is a real pleasure to meet with you on this occasion. I am not at all like a certain young lady, who, on being asked for a kiss by a physician, demurred on the ground that she didn't want a doctor's bill stuck in her face. This meeting gives us the long sought for opportunity of acknowledging to the medical profession, the lasting obligation under which it has placed the members of the bar. If, as has been declared, gratitude is a lively sense of benefits to come, we are truly grateful to you men. The settlement of estates of deceased persons you know is one of the most lucrative branches of our practice. (Judge Streuber, and the rules of the Probate Court, to the contrary notwithstanding.)

I am told that some time after this eminent Judge had been elevated to the probate bench, a learned member of your profession, from Collinsville, presented a bill to his Honor against the estate of a deceased patient, and asked, "Do you wish to have my bill sworn to?" "No," replied Judge Streuber, "the death of the deceased is sufficient evidence that you attended him professionally."

It is said that one of the signers of the Declaration of Independence submitted an off-hand opinion that unless the said signers hung together, they might hang apart. Perchance that may in a sense be true of us, also. After all, there is much in the two professions to bind us together. Some of you may be surprised to know that the title of Doctor invented in the twelfth century was originally conferred upon one Irnerius, a learned Professor of Law at the University of Bologna. Thus, the first doctor was a doctor of law (which fact probably accounts for so many of our laws being in such bad shape). But it wasn't very long until our boasted title was borrowed for the benefit of the clergy, and the University of Paris allowed the celebrated scholastic theologian, Peter Lombard, to set sail on life's sea under the alias of Doctor of Divinity. Of course, the disciples of Hippocrates were not going to let the preachers reap where they had not sown, for in 1329 we find William Gasdenio coming to the front with the title you now hold. Doctor of Medicine. You ought to be proud of that title, it came from the legal profession. And let me say in passing, it is the first time on record, and will doubtless be the last, that the lawyers ever let anything get away from them. I can't understand it!

Next to the confusion of tongues on the plain in the land of Shinar, this indiscriminate conferring of the title Doctor has proved to be one of the greatest calamities of history. It were better for all concerned had the lawyers quit-claimed the title in fee-simple to the members of the medical profession, "with all the appurtenances thereunto belonging, to have and to hold the same, unto them and their heirs and assigns forever." No conveyancer has ever yet been able to perfect an abstract of title for the term Doctor.

The result is, that to-day, when a man is called a Doctor we know little and must learn much. He may be a dentist, a man who finds nourishment for his own teeth by pulling other people's out. He may limit his practice to the descendants of Balaam's beast of burden. He may appear on the public stage, night after night, and weave his mesmeric spells, at so much per. He may occupy a chair in some institution of learning, as a Doctor of Philosophy (whatever that may be). His sole mission in life may be the prescribing of salt water for sore shins, and yet we hear him called a Doctor. And on Sunday, we may hear him thunder long and loud, calling sinners to repentance; for it was a Doctor of Divinity, you recall, who first filched from us our good name, which on the authority of the great poet, "not enriches him, but makes us poor indeed."

This misleading term of Doctor is truly an empty name, signifying nothing. A story is told of the Rev. Dr. Channing and his brother, a physician, who at one time both lived in Boston. A countryman in search of a divine called at the physician's door. "Does Dr. Channing live here?" "Yes, sir." "You must have altered some since I heard you preach? Certainly you are the Dr. Channing that preaches, aren't you?" "Oh, I see you are mistaken. It is my brother who preaches. I am the doctor who practices."

Hippocrates, the Father of your profession, was a great believer in the Law of Nature, and considered, in common with many of you, that it contributed to the general happiness of mankind; but "it is the nature of the law," declares some unkind critics, "to contribute only to the happiness of the attorneys."

We professional men, aside from being continually broke, have many things in common. We all make mistakes. With this as a basis some wag has asked what is the difference between a doctor's mistakes and a lawyer's mistakes? Answer, twelve feet. When a doctor makes a mistake they put a man six feet under the ground; alas, when a lawyer makes a mistake they suspend his victim six feet above the ground. The difference, you perceive, is twelve feet. Then again, it is not to be wondered at that doctors and lawyers alike, dealing daily as they do with such obtruse problems, as, for instance, collecting unpaid fees, etc., should become more or less absent-minded. I well remember an example of this which occurred in Alton some few years ago. A noted physician of that city was calling upon a gentleman who had been ailing for some time, and put a fee into the patient's hand, and took the medicine himself, which he had prepared for the sick man; he was not made aware of his mistake until he found himself turning ill and the patient getting better. They say that a Granite City lawyer was so absent-minded once that he paid his grocery bill the first time it was presented. (I think it was Judge Bandy, but I am not certain.) That was nearly as bad as the doctor in Edwardsville, who in making out a certificate of death some time ago to file in court wrote his name in the blank reserved for cause of death.

I make bold to assert, however, public opinion to the contrary notwithstanding, that most lawyers and the majority of doctors are honest and proficient men. It is the exception that proves the rule. And let me say right here that it was a rather mean remark Doctor Fiegenbaum made to Dan Williamson the other evening, when they were out at a social gathering. The hour was growing late, and Dan, pulling out his Waterbury watch, said, "Come, Doctor, it's ten o'clock; I think we had better be going for it's time honest folks were at home." "Well, yes," replied Doctor Fiegenbaum, with a twinkle of his eye, "I must be off, but you needn't go on that account." Then there is that unthinking critic who declared that a pig was a good subject for doctors to experiment on, as it could be killed first and cured afterward.

We are told that on one occasion Dumas visited Dr. Gistal, a celebrity of Marseilles. After dinner the Doctor brought out his album and requested the noted novelist to write in it. Dumas took the book and wrote, "Since the famous Dr. Gistal began to practice here they have demolished the hospital," "Flattery," cried the delighted Doctor. "And," continued Dumas, "on its site made a cemetery."

And then you recall some months ago, when "Tom" Williamson, he of the fog-horn-voice, returned from the Woodmen Convention at Buffalo. Tom got

his complexion put on the bum out east, and when he reached home he called his doctor to see why this was thusly. Tom's wheels seemed to be a bit out of gear, for he kept saying, "Mister Chairman, I move the nominations be closed." Mrs. Williamson became alarmed and said, "Oh, Doctor, Tom seems to be wandering in his mind." The Doctor, who knew Tom pretty well, replied, "Don't let that worry you, Mrs. Williamson, he can't go far."

We may laugh at the doctors, we may ridicule the lawyers, and yet, with all jokes aside, these two professions, the followers of Hippocrates, and the descendants of Lysurgus, Solon and Blackstone, stand out preeminent as benefactors of mankind. Where, indeed, shall we search for those who have done more for their fellow men? From the time that might made right, and the rule of the may keep who can was the sole law of human conduct; when the witch doctors and the medicine men, with their ceaseless noise and din, tried in vain to frighten away the devils of disease, down through the centuries, the doctors and the lawyers have struggled for the amelioration of human misery, and indeed the prolongation of life itself. Step by step have we advanced in this victorious march against disease and barbarism. With your learning and your skill you have taught us that "he whose reason totters on its throne" should be treated as one who is ill, not shunned as an outcast. And we in turn, with our laws, have safe-guarded those who are thus unfortunate. So far we have maintained that if one is capable of having criminal intent, he may be guilty of crime; refusing to recognize the finer and more subtle distinction which you draw. And yet, it seems to me that you reason well when you contend that one may be partially insane, having the capacity to formulate a criminal intent, and still, through no fault of his own, lack sufficient power of self-restraint to forebear the commission of an act which he clearly perceives to be criminal. You have much to sustain your argument, that it is unreasonable and unjust to punish a human being for that which he does not have the power to refrain from doing. We lawyers fear just yet to conform to your theory, lest its adoption allow the guilty to go free. Let us hope, nevertheless, that the near future may see medical science so far advanced in its wonderful analysis of the human intellect that it will be able to determine without question the true from fictitious, the real from the assumed; then may we indeed take a step forward. Then may we hope through proper educational means to wholly prevent crime, which after all is the grand goal of all the criminal law.

I have often looked at that beautiful picture, copies of which adorn many of your offices, you call it "The Doctor." The scene is the interior of an humble cottage. On a rude couch of old chairs, a child lies stricken with disease. The mother, anxious and worn through endless days and nights of constant care, sits at a table, her face hid in her arms, the very image of despair. At her side, stands the husband and father, downcast and sad. The joy and the happiness of the home has fled, their little daughter is sick unto death. I turn from these heart-broken parents to the face of the little sufferer, where it seems that that mysterious thing we call life, must soon fade away. But wait! The end is not yet! I see at that child's side another face, the face of a solemn, thoughtful man, the doctor. He has done and is still doing all that medical skill can suggest. I see him await the crisis which shall determine whether or not his efforts have been in vain. With nerves steady, and mind alert, he watches the result.

Here, indeed, is a wonderful thought caught by the painter's brush. There is naught of gain or mercenary motive depicted here. The surroundings would indicate no great monetary compensation forthcoming for the services rendered. It shows us rather the man, whose foremost thought is that of duty, and whose mission in life is, first of all, to relieve distress.

I have often looked at that picture, the picture of "The Doctor," and thought it one of the most beautiful conceptions an artist ever portrayed. I see in it the thoughtful, intelligent face, the patient skill, and the watchful care that more than once, in the sad hours of sickness, has caused "the rainbow of hope to shine through the tears of grief." It typifies that class of men to whom you belong, my friends, and we lawyers in common with all others, bare our heads to the

members of that noble profession, whose skill, learning and unselfish devotion to duty has placed them in the very van of the world's mighty benefactors.

THE PRESIDENT: Mr. D. G. Williamson, Edwardsville.

MR. WILLIAMSON: *Mr. President, Gentlemen of the Meeting:*

I think it wrong to begin with apologies, but this time I am compelled to. I don't want you to be mistaken. I want to tell you now that I cannot hope to instruct you. I simply want to talk to the doctors a few minutes because a good many of them have talked to me. I think the first man I met on coming to this country was a doctor, and he rendered me material assistance, and I have met many of them since. I see many faces here that I have interviewed and if I should stick out my tongue at one of you it would not be in disrespect, it is simply by force of habit.

It has been said there is something in common between doctors and lawyers. That is true when I think each has a large and growing collection of family skeletons. We all have them on both sides, I mean of other people, that are in our confidences, and it is to the credit of both professions that there are so few of them that get away.

I don't know how many stories have been told this afternoon, but I will venture one, and if I am telling it again I will probably be stopped before getting far. It is with regard to the keeping of professional secrets.

A story is told of an able physician of good standing in a country town, who made up his mind late in life to go into politics. He decided to be a candidate for Mayor of his city on the republican ticket and so announced himself. When the members of the party heard of it there was consternation and surprise, and they went to him post haste and said to him: "Why, doctor, what are you doing? You are doing the wrong thing. This won't do, you are doing wrong. Why the party won't stand for it. You haven't been a man of any activity in politics around here. You cannot be elected, the people won't elect you. You ought to withdraw."

"So you think I ought to withdraw?" said the doctor.

"Why sure," they said, and he said, "I will, but hold on, I will run independent."

That they thought was a joke, a good joke, and they laughed. But some time after the men talked to him the joke came out. The day before the election the doctor published in a leading paper this card which said, "I am a doctor. I have been practicing in this county for thirty years. I know every man, woman and child in it. I am a candidate for mayor on the independent ticket, and I propose if I am not elected, to publish everything I know, of any man, woman or child in this city." Next day, after the poles were closed and the votes counted, they found that he had been elected by all but three votes and they were strangers who lately moved in before the election.

Now, that we have something in common, similarities, is a fact. By that I mean that the men in both professions have to secure the correction of evil by men, in the observation of law. The evil as you doctors will get it is the result of the violation of law, in your cases of natural law, of the physical laws that control either the parents or the children. In the case of the lawyer it is the result of the violation of the civil law which is the cause of the difficulty, and also his occupation, the act. Of course, natural law hasn't that. Understand in all these departments we are constantly discovering.

Civil law is said to be a creation of mankind. It is the sense of humanity gathered from the ages, and I suppose we cannot hope for centuries to come to reach the time when we will have practically perfect civil law. There is wrong and evil possible in all systems of the law that have been devised, and the best that the conscientious lawyer can do is to apply the law as he finds it, to take his client's case into his confidence, to do the best he can, and by the way, that is another similarity between lawyers and doctors. The only inducement is the personal relationship of confidence of the doctor to the patient and the lawyer to the client. You know the very inside of a man's thoughts when he comes to

you to consult about the matter, and the doctor knows about all those inside thoughts when he consults him and there is a confidence established that is not shown, that is, it is not shown often between persons in any other relation in life.

Now, then, the difference between the lawyer and the doctor is also illustrated in this way: A lawyer plies a case over painstakingly, he considers all the facts to be set out, that is his declaration and plea, and he uses his best means, effort and care to place his case on paper. He says to himself, what remedy shall I pursue? Shall I put this in case or trover? Shall I bring it in chancery or make it a law suit, and in what court? Finally he makes up his mind and he in haste files it and he gets in court and the result is favorable or otherwise, one of the parties taking an appeal. Up there in the Supreme Court they are. The appellant is complaining that the lower court ruled thus and so. Its contention could not be otherwise for the reason that in order to raise the question he should have proceeded along another course, in other words he made a mistake in following that line of action and the court shows his mistake. And they have with fulness and cruelty printed that and published it in a report, for posterity to read after we are dead and gone, but if a doctor makes a mistake in diagnosing some disease the tombstone reads just the same, there is no difference then—you have not that to contend with.

However, in speaking in this way, lightly, I cannot be misunderstood to have the least bit of disrespect for the profession that I believe to-day stands at the very forefront. Scientists of your profession have done more during my brief time than those of any other in the world. And they have directed their attention to the greatest thing in the world, which is man himself. Everything goes back to the higher order of creation. The doctor goes directly to that thing. The other men, the men of business would concern themselves with the material things, but the doctor's profession goes directly to the well-being, the mental well-being of the individual himself. His services are beyond comparison, there can be no comparison in them. And if he rescues a man from pain and suffering his compensation cannot be doubted. The man who constantly goes up and down in a community helping the suffering, aiding the afflicted and bearing other's burdens must, by virtue of that very fact, grow in his heart and in his mind. And in every community that ever I have known, and in any community where any of you have been, a physician takes the front rank. He is the man who has the confidence of the people; he is the man that is regarded, and properly so.

And with regard to where the name originates, or who was the father of the profession you may again point to this, that the greatest figure in history was known, or is known, for the past two thousand years, more by the acts which He did in healing mankind, and that it was the injunction which He laid upon his disciples when He left the earth to "go and heal the sick." And He also was a law giver and said, "render unto Cæsar the things that are Cæsar's."

THE PRESIDENT: Mr. Mallory Burroughs, Edwardsville.

MR. BURROUGHS: *Mr. President, Gentlemen of the Society:*

After all that has been said, and with one speaker to follow me, who is to speak on the same subject that is up for discussion, one would think that there is not much more to say, and I confess I feel very much like the toastmaster who replied to a remark made by one on the program after a banquet. The party rose near the end of the program and when it was very late in the evening and said, "Mr. Toastmaster, what shall I say, what shall I talk about?" The toastmaster replied: "About two minutes."

Unfortunately, to borrow a phrase that was used a little while ago, I was one of the drafted list and was compelled to volunteer on very short notice, so that I can assure you that I will not detain you many more than two minutes, if two minutes itself.

Now, as has already been intimated, the subject of law and medicine is indeed a broad field. They have many things in common and there is a point at which the two meet. There is also a point over which the two interlap. Now, I am going to speak of one of the phases of law in its relation to medicine which I think at this time should especially interest members of the medical profession.

I am sure that many of you are aware that in the larger cities there has grown up in late years considerable litigation known as mal-practice litigation. And I want to say while I think of it, before passing, someone has suggested jealousy in the medical profession and that member was modest enough to leave you with the impression that he didn't think there was very much jealousy in the medical profession. Now, I can vouch for that member and say that he is generally possessed of more actual facts than he indicated by his modesty. The fact is, gentlemen, that in most of the cases that have gone to the courts, many of those that have been tried and haven't reached the higher courts where opinions are written and reported, the fact is that in the background of most of those cases is an envious or jealous physician. It is a fact that many mal-practice suits have been instigated and urged on by some member of the profession who was jealous or envious of some other member. Now, it is because of that fact and because of the fact also that that feeling of jealousy among physicians increases and spreads that this species of litigation is working its way into the country. At the present time it is most prevalent in the larger cities. And I think it would not be out of place this afternoon to deliberate for a short time on mal-practice, and with that branch of medical jurisprudence, which concerns the contract which the physician makes with his patient.

Now, when one is sick and needs medical services and a physician is called, the question arises whether or not the physician must attend. I think almost I ought to apologize for asserting what the law is on that branch of the subject, because many of you no doubt know what it is. But there is in communities a popular belief that the physician by reason of his rights and privilege and the license which he gets from the state stands in the same situation as an officer of the court, an officer of some municipality or some sub-division of municipal government and that he must go when he is called. That, however, is not true as to the physician. The physician in that respect stands on a par with the groceryman or deliveryman or the lawyer, except when, as you understand, the lawyer sometimes acts as an officer of the court. But when calling a physician, unless he is under a special contract, as in the government service, and is required to do special service, he can go at the request of the patient or party summoning him or he may stay away.

But now, let us assume that the physician accepts the employment. Now, upon his acceptance of the employment and endeavoring to treat the patient he immediately sets in operation a series of contractual rights and presumptions of law as to his qualifications to treat the patient and perform his duty, and for a failure to do which he will render himself liable in damages for any injury that is sustained as a result.

Now, every physician who accepts a call to treat a person professionally contracts to do three things, all of which he must do faithfully and a failure to do any one of which would render him liable in an action for damages. The first is that he contracts that he possesses a reasonable degree of knowledge, skill and experience, that is the first. The second is, that in treating the patient he will exercise ordinary care and diligence, and the third contractual obligation is, that in cases of doubt he will exercise his best judgment.

Now, it isn't very much to say that he must possess a reasonable degree of knowledge, skill and experience, and must exercise ordinary care and diligence without going a step farther and defining what those terms mean. You can readily appreciate that to hold every physician to a standard of skill which would be manifested and which is practiced by the thoroughly educated specialists along particular lines of work, would be unjust and unfair to a great majority of our physicians and surgeons. On the other hand to demand no better standard than that which is manifested by the quack or the novice would be unfair to the patient. So the courts have, after many years of discussion of the subject, laid down the rule which is generally believed now to be the rule throughout the country; that is that we must take into consideration the locality in which a man is practicing and his facilities for keeping in touch with the advance stages of the medical profession and his opportunities for keeping up with it so to speak,

keeping pace with it. Now, from that is deduced this rule which is the rule that governs in that class of cases, that a physician when treating a patient will be held to possess that degree of knowledge, skill and experience and to exercise that degree of care and diligence which an ordinary man of the medical profession in the locality in question would exercise. That is laid down now as the standard.

Now, in reaching that, it is almost necessary to regard two rules which are always applied in cases of that kind. Hence, regard is had to the school of medicine to which one belongs, or from which one graduated. The next is the advanced stage of the profession. Those two things must be kept in mind all the time. For instance: if a homeopathic physician should be tried in a malpractice suit or prosecution it would not be proper to summon in allopathic physicians to give their opinions as to whether or not the homeopathic physician had exercised proper care in treating the patient. We must go to the homeopathic school for expert testimony in a case of that kind. The authorities are almost unanimous in holding that the expert testimony must be confined exclusively to the field of the physician who is charged with malpractice.

Now, again, the physician must follow established forms of treatment. No physician is allowed to experiment with a patient regardless of the patient's condition when he knows of some method of treatment that is reasonably sure of getting results. If a physician is confronted with the situation of a patient who is in a serious condition and he knows of one form of treatment that under ordinary conditions will give good results but he has heard of another method or has known some other physician to apply a method which has been productive of good results but he is not exactly sure as to how he should apply that treatment, if he takes the latter course and applies the treatment as to which he is in doubt and bad results follow, the physician in that case is liable, because the law holds every physician to a strict account, that they shall not experiment upon the lives or the health of their patients.

Then another thing, a physician's duty is not performed when he merely goes to a sick room and administers a treatment or gives a medicine. If the form of the malady is such as to cause or give rise to certain propensities which a patient would be expected to have at times, it is just as much the duty of the physician to warn the patient and to warn those in charge of him, as to those propensities so that they can be safeguarded against, and harm prevented. So then it is a part of the physician's duty to give proper instructions to be carried out after he leaves the patient to the care of some one else.

Now, another question frequently arises which I am sure many members of the medical profession have had to solve and which has never been given very much careful consideration in practice and that is, when or under what circumstances may a physician discontinue treating a patient? When we started out we proposed that the physician contracts to exercise that degree of care and diligence that is ordinarily exercised by those in similar localities, that is reasonable under the circumstances. Now, that includes a continuance of service and of treatment as long as it is necessary, and a physician, who for some personal reason or to gratify some desire or some whim or wish, leaves the patient when the patient is not in a safe condition, or in such a condition that he probably would not recover or get entirely well if left, would be liable, if he leave that patient in that condition without notice, if he did not leave some one in his stead.

Another question comes up frequently with physicians who desire to go away when they have patients that are sick, some that cannot be left to themselves, and the question arises, can they go away, and if so under what circumstances. The solution of that question and the one most usually adopted is to send a substitute.

Now, right here: many physicians have been held liable in damage suits by reason of the substitute they have sent. And the rule governing that class of cases is that if you send a substitute and hold out to the patient that the substitute is sent in your place and is to act in your behalf, then you yourself become as liable to the patient as the substitute himself. If, however, you recommend

some physician of standing and give the patient to understand that you are withdrawing from the case temporarily, then there is no contract of agency, and only the physician you recommended can be held responsible.

Now, in the list of patients which a physician treats there are often a number of so-called "charity patients" and the question arises whether or not a physician who receives no compensation for his service is held to the exercise of the same degree of care and is required to perform the same duties as to the patient who pays him compensation. The law along this line is extremely interesting for the reason that in its early history there were three degrees of care and three corresponding degrees of negligence that were applied in that class of cases. They were called gross negligence, ordinary negligence and slight negligence, and the same corresponding degrees of care. And the rule applied then in the early history of the law was that those who were paid an especially good compensation were held to the exercise of the highest degree of care; those paid only ordinary fees were held to the exercise of ordinary care, and those that were paid nothing were not absolutely free to exercise no care at all but they were only required to exercise slight care, and on a showing that they exercised only very slight care, if he received no compensation the physician could not be held liable. Our time is too short to trace the history of the development of the law in that class of cases. I simply want to state the present state of the law now, and it is, that a physician who accepts a call or calls upon the request of a patient to treat him, must exercise the same degree of care whether the physician receives one penny or whether he receives a thousand dollars. The law does not allow the poor and indigent to become the objects of experiment or cruel indifference. The law we have and live under to-day, and as it exists to-day, is that the compensation has absolutely nothing to do with the degree of diligence to be exercised, and the care to be exercised must be the same whether the patient pays you one cent or whether you receive a thousand dollars. But I think I ought to suggest in passing that in the practical working of that rule there is a difference, because the fact of whether or not a physician has performed his duty in a particular case is a question of fact, and as you know, such questions of fact go to the jury to be passed on; and there is scarcely any jury, there isn't a jury in the world that would hold a physician to the same degree of care where he is paid one cent or receives nothing, as they would when he receives a thousand dollars. So that is a case where the theory of the law and the practice of the law don't quite harmonize; the rule is one thing and the practice, by reason of the opportunity to work upon the sympathy of the jury or influence the instrumentality which will decide that fact, is another. The actual working of the law is not in fact, as the theory requires that it should be.

Another condition those of you in active practice and those whose practice is not so active, to a limited extent, frequently come in contact with, is that of contagious and infectious diseases. It becomes necessary often to leave a patient with a contagious and infectious disease and to go from there to the house of one who has not a disease of that character. I have known of physicians leaving the room of a person sick with a contagious disease and going to the room of another person that was not affected with that sort of malady. In a case of that kind the physician generally takes a great risk because if you carry the infection to the person—to the patient who hasn't it, and it is transmitted to that patient, that doctor is liable if he fails to disclose the information. If you apprise the patient that you go to see, that you have been where a contagious disease exists and the patient is then willing that you come near him or treat him, then the patient takes the risk in his own hands, but the doctor that comes without warning the patient and assumes to see the patient and treat him and leaves the germ which takes effect, or transmits the disease to the patient, that doctor then becomes liable if a suit should follow.

Now, there is one more point and that is; in case suits are actually brought, what defenses are open to the physician. Of course, the principal defense, and the only one that I shall simply mention in passing on, is that of contributory negligence. The contract which the law sets in operation is a mutual and reciprocal

contract by which the patient agrees to follow conscientiously the instructions left him by the physician and if he fails to do it and that failure contributes to the damage which he suffers, even though the physician himself might have been at fault, if there is negligence by both existing, the contributory negligence of the patient is a complete defense to the physician and the latter cannot be held liable.

Now, there is another phase of mal-practice. I have discussed the civil aspect of mal-practice, but there is also criminal mal-practice. There another, a very different rule applies than applies in the civil aspect of the case. However, it may be stated that a physician cannot be held liable in a criminal prosecution where there has been neither a wilful intention to injure somebody nor such a gross disregard of the health or life of the patient that it evidences wilfulness or a wilful intention or wilful neglect of duty. It is only in that case that criminal liability attaches.

It has been some little while ago that the question arose, I have heard it discussed in recent years but never very much at length, as to whether or not, where a physician sees a patient who is hopelessly ill, too sick to recover, hopelessly afflicted and suffering the most excruciating pain, and almost all rational minds are agreed that the patient is bound to die, and that there is no hope for him, and that prolonging his life would be just simply a prolongation of the agony, the question has arisen whether or not the physician in that case, in the exercise of sound discretion, may exterminate life. As to that question I apprehend no one is in doubt. It is discussed in an old case having gone up to the courts and it has been decided in this country and by the highest court of England that under no condition has a physician a right to exterminate life. It is only in the case where there is only one thing that can be done that might prolong life that the physician may do that which might result in death, but he must not do it for the purpose of taking life or with the intention of taking life.

I see I have been talking for some little time and as Judge Hadley is to follow I will conclude. There are several other phases of the question, gentlemen, that I would like to discuss but I feel that those I have discussed are those that most frequently come up in your practice; and if you will follow these ideas in the practice of your profession, if always, as has been suggested by several of the speakers, you will try to do that which your school and which your principles and your experience have sanctioned as the best course of action in that particular case, then, as far as you are concerned there need never be any fear or any apprehension of any mal-practice suits.

I thank you very much for your attention as well as for the privilege of addressing you.

THE PRESIDENT: We will be glad to listen to Judge Hadley of Collinsville.

JUDGE W. E. HADLEY, Collinsville: *Mr. Chairman, Gentlemen of the Medical Profession:*

I will assure you that I won't take up too much of your time; I know it is warm and you are tired.

There has been a great deal said this afternoon about that which is in common between lawyers and physicians. There is a great deal that may be said along that line simply because their callings in life are along the same lines. There are three professions in this world that I think are the greatest of any. First I will say is the ministry, and second I will say is the law, and the third is that of medicine. The calling of the minister, the lawyer and the physician to the upbuilding of society and the protection of society, are all along the same lines.

I am only going to touch some of the high places, gentlemen. I am going to call your attention to the relation between the physician and the Justice.

As was stated in Mr. Burton's paper, we have a written constitution in this state. And we have what is termed a republican form of government. There are three departments, the executive, the legislative and the judiciary. The legislative department enacts and makes the laws, the executive enforces the laws, and the judiciary interprets and administers the laws. Of all those departments now the judiciary department has the greatest powers. The judiciary depart-

ment can tie the hands of any of them, can declare any law the legislature might pass unconstitutional and void. It can only do that, when it is the law and when it is right and when it is just. They do that for the benefit of society, and that is also the calling of the physician.

Now, then, the greatest of those departments as I said before is the judiciary. You strike down the judiciary department of this country and anarchy will follow and overrun the country. The executive department would avail you nothing so far as the protection of society is concerned if the judicial department is not upheld and respected.

I am going to address my remarks to-day on the duty that the lawyer or physician owes to the court. A lawyer is an officer of the court, he is part of it and at times a physician, you might say, is a part of the court. Lawyers, ministers and doctors are all favored by the law. They are exempt from jury service. They are exempt from this, that, or the other. They all are exempt. Their privileged communications are exempt. They are exempt and you cannot force them to divulge anything a patient has confided in a physician or that a client has confided in a lawyer, or what a person has confided in a spiritual advisor. Now, then, for those exemptions you owe something to mankind, you owe something to society, you owe something to the court and to the law.

Sometimes physicians are very busy and it is a matter of life or death to their patients, and probably they inadvertently and unconsciously don't perform their duty, so far as the court is concerned, that they ought to. When a subpoena is read to a doctor, that subpoena has the same force and effect and it is as binding upon the physician, as if it is read to a butcher down the street. When a physician is subpoenaed to court to tell what he knows, whether it be a civil, a criminal or a chancery proceeding, somebody's rights are at stake, somebody's property rights, somebody's liberty or somebody's good name and reputation is at stake. And whenever that subpoena is read to any person, regardless of what his calling in life is, it is his absolute duty to obey that command, and the law is such that if it is not obeyed, the courts have the power and the right to see that it is obeyed. Now, then, I want to say to the physicians of Madison County, particularly those of you that are here, that whenever you are subpoenaed as a witness in a law suit, always be particular to make a notation, if you think your business might be such as will cause you to forget the exact time and day that you are supposed to be in court. If you think that your business, that the condition of your patients is such that you cannot attend court without a great deal of inconvenience at that time, then you take it up immediately with the lawyer that subpoenaed you. If you cannot do anything with that lawyer, then you take it up with the presiding judge and he will help you out. I know that it isn't right, so far as the duty that a physician owes to his patient, for a physician to be called into court and stay there hour after hour, day after day waiting for the particular case to be called or waiting for his time to go and testify. And for that reason you can invariably make some arrangement with the lawyers and the court, so that with our telephone systems and our electric car systems in this county, if you keep in touch with the lawyer, that you can be in the courtroom when you are wanted, and be put upon the stand immediately, and then be excused. Never undertake to take the law in your own hands and disobey a summons, because if you do you will get into trouble. But if you cannot make arrangements with the lawyer, then you take it up with the court, and the court will help you out. I remember when I was trying a case down here last year. It was a criminal case and the doctor from Worden, I think it was Dr. Dorr, if I am not mistaken, called me up three times a day for three days. He called me up morning, noon and night. He had been subpoenaed in the case, and he called me up the night before the case was to be reached, and I told him that I was satisfied that the case wouldn't be reached in the morning, but for him to keep in touch with his office and I would advise his office when that case was reached, and by the time we had a jury he could be down and testify and go back to his work. Well, he called me in the morning and he called me again at noon and I told him that the case wouldn't be reached; and he called me again

that night and I told him that it wouldn't be reached, but when it was reached the doctor was right there, was put on the stand and I don't think he was in court over ten or fifteen minutes.

And I remember when we were trying the Horney case, taking weeks, and every day we had physicians from St. Louis on the stand, we had physicians from Madison County and physicians from Edwardsville were subpoenaed in that case. Dr. Neideringhaus of Granite City was subpoenaed in that case. Dr. Neideringhaus called me up on the telephone and explained to me that his aunt was seriously ill and was expected to die at any time. He says, she cannot live. He says I cannot do anything for her, but the folks expect me to stay with her and insist that I stay with her. I said, doctor, you just keep in touch with the office and if it is necessary we will move the court down to Granite City, and in fact had it arranged that the next day we were going to take a special car, and take the court down to Granite City. We were simply going to take the jury down there to take Dr. Neideringhaus' testimony, and come back. And why? Simply because we had respect for the relationship that existed between Dr. Neideringhaus and his aunt.

Now, gentlemen, that is about all I have to say to you on this subject. But you can always make arrangements with the court when you are subpoenaed if you will call up, and I want to say to you now, that I realize the position that a physician holds, and the duty that he is under and his obligations. And I will do all I can to assist you when you are called into court to give testimony in any case, whether civil or criminal; but don't disobey the subpoena.

I thank you.

THE PRESIDENT: The discussion will be closed by Mr. Burton.

MR. C. H. BURTON: *Mr. President and Gentlemen:*

When I came in this afternoon I was a little bit timid, a little scared, skeerd, as we used to say. I never tried a case like this before. I didn't know the court or the high bailiff here, but I knew some of the jury and I was willing to fall back on the jury. We lawyers try many cases by a jury of average men, of average citizens, neither too high or too low, just the average. I am always willing to take my chance with the average man, and gentlemen, as the doctors sometime say, when the patient begins to get a little restless and looks at the clock and thinks, well, my goodness, I am the only sick person in this whole neighborhood, I think that way; only it has been a little beyond the usual to-day, and you know it has been a long time since I have had a chance to treat you.

But I want to say one word, it occurred to me in the discussion on this subject by others of the gentlemen present, that is, of course, of interest to you all, that is the subject of mal-practice. I don't believe in it. I have had doctors work with me and tinker with me for just about fifty years and I don't believe there is any such thing as mal-practice, in a good doctor. I tell you where the mal-practice case comes in, it is where the doctor ain't doctoring. It is when he is doing something else, when he is so busy with something else, either a money making scheme, a racing scheme, or flying machine scheme or something that isn't practicing medicine.

You doctors have a harder study than we have. You have to read medicine, study medicine for five years, we only have to have three, and either we are smarter than you are when we begin or you are smarter than we are when you quit. I think you are smarter than we are both when you begin and quit. But the law don't ask impossibilities, it don't ask anything unreasonable, and I don't think there is a man practicing medicine in Madison County who isn't competent to practice and avoid mal-practice, yes, there isn't one of you excluded. But I know in this age of curatives and patent medicines that there is an inclination on the part of some to get others to take their places. Like, you take for instance, the various factories down here in Granite City, the operators try to hire others to take their place. They are in the whole day, in and out, and all of them hold hired insurance to take their place. I will give this job to someone else, they think, but they don't do it, and it is a bad job when they do it,

because it is the fellow that takes it that suffers. I don't believe that doctors can hire, by insurance, someone else to take off of their shoulders the responsibility that the law puts there, to treat fairly and conscientiously. And therefore, my advice is always to attend to your patients, and the average doctor, or any doctor of any school, be it one school or the other, will not be guilty of any mal-practice.

I want to say in conclusion just a word on the end of the subject that I have not touched upon, and that is the law.

It has been said that it is a grand profession when administered properly, and we have a kind of treatment we administer to lawyers when they don't do what the standard calls for, we disbar them, we turn them out of the profession. And the state bar association has a code of ethics which is in harmony with the national bar association's code of ethics. And the procedure is simple. It is simply this: that if a lawyer violates his obligations and duties as an officer of the court, charges are preferred by lawyers to the bar association. He has a hearing and trial and the evidence is taken down as the young man there has taken down what was said here to-day. It is considered thoroughly by the bar association, and it is presented to the court, and both sides can be heard. And if he has stolen the money of some poor widow or some orphan, if he has been guilty of any mal-practice as a lawyer, he is disbarred from the association and has his license to practice law withheld. It is taken away from him by the Supreme Court on the final hearing, and that is the penalty for the man that doesn't live up to the practice of the lawyer.

And as to the law, just let me read the lines, the sentiment of others:

"Of law no less can be acknowledged than that her seat is the bosom of God, her voice the harmony of the world. All things in heaven and earth do her homage; the very least as feeling her care, the greatest as not exempt from her power."

DR. E. A. COOK, of Alton: Mr. President, I move that the doctors of the Madison County Medical Association extend a vote of thanks to the lawyers who have given us this entertainment this afternoon.

THE PRESIDENT: I don't think any second is necessary. Those in favor of a vote of thanks being extended please signify by rising. We stand adjourned.

CONTROL OF BOVINE TUBERCULOSIS *

MAZYCK P. RAVENEL, M.D.

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MADISON, WIS.

I almost feel that an apology is necessary for the presentation of a paper on this subject, but if anybody is to blame for my appearance here it is the secretary, who, after I had said that I had nothing new to give to the association, at the suggestion of President Welch asked that I would give a paper on this subject, to which I consented. I felt less hesitation in doing so, because during the past year some very important work has been published. Also, we have been confronted by a number of legislatures on this great subject. Especially active has been the legislature of Illinois, where a commission, headed by a lawyer, was appointed to determine the scientific accuracy of the tuberculin test and the pasteurization of milk. This commission, composed of eight laymen and two physicians, culin test, but admits, as it must of necessity in the face of the evidence, has brought in a report which declares against the necessity of the tuber-

* Remarks made before the National Association for the Study and Prevention of Tuberculosis, June, 1911.

that tuberculosis does pass from animals to man. This report has been already used in legislation to let down the bars. It is therefore important to those who are interested in the preservation of public health to continue the fight for pure milk.

There are two all-sufficient reasons for the control of bovine tuberculosis. The first of these is that the disease is an economic scourge, a problem affecting the farmers of the country and the public in general. It has something to do with the high cost of living—the reason why meat is so expensive. If anybody thinks that the packer who loses a lot of hogs or cows through the governmental inspection in the slaughter-houses is the loser thereby, he is mistaken. The loss falls on the consumer and on the farmer.

However, in the short time at my disposal, I shall take up only the second great reason for the control of bovine tuberculosis, namely, the preservation of public health. It is unnecessary to go into the history of the subject, since Dr. Welch has very ably reviewed in his presidential address to-day the work that has been done since Koch's paper in 1901 at the British Congress on Tuberculosis. Since that time the amount of work that has been brought forward has been enormous, and I am glad to say for American medicine that this subject had been well studied by several American workers before Koch read his paper, and that practical proof that he was wrong in his contention had already been obtained in America. Since that time we have had the reports of the results of the British Royal Commission and of the German Imperial Commission. They studied cases according to Koch's own method, namely, the isolation of cultures and the inoculation of animals of the bovine species. Further studies made largely in this country have shown that the rabbit is just as good a diagnostic agent for the separation of the two types of bacilli as cattle, if the dose is properly graded.

For the benefit of the laymen who are present at this meeting, let me say that Koch never said that the bovine bacillus and the human bacillus were two different germs. He said that they were two types of the same species, a fact which had been demonstrated five years before by Theobald Smith. Let me mention an illustration which I use in speaking to laymen, farmers particularly. Nobody could confuse a Jersey cow with a Holstein. They are very different in appearance, and yet both belong to the bovine race. In the same way the germ of tuberculosis from man and from cattle, while presenting certain differences in appearance, and especially in disease-producing power, belong to the same species. You are familiar with the work of the English and German commissions. The English Royal Commission examined sixty cases, and of that number found fourteen which showed bovine infection. The German Imperial Commission examined eighty-four children, and of that number twenty-one, or 25 per cent., had died of bovine infection. I do not like to criticize motives, but I think anybody who has read the reports of this commission must acknowledge that they have done all they could to support Koch. Within the last year and since the laboratory work has shown how wrong he was in his original contention, a collective report from the

clinical standpoint has been published in Germany in which an effort is made to sustain his contention. In fact, the statement is made in this paper that it goes far to support Koch's opinion. I have always held, and I think with the best of reasons, that clinical work is absolutely valueless in determining the source of infection in any given case of tuberculosis. I do not believe that there is any man in the world who can tell bovine infection from human infection clinically. We know, of course, that bovine infection is apt to determine a certain type of tuberculous lesion, and one may be justified at times in forming something of an opinion, but in generalized tuberculosis no one can tell with any degree of certainty the source of infection.

A clear demonstration of this point has been given in the city of New York. In that city, under the leadership of Drs. Holt, Northrup and others, it was maintained by many physicians for a long time that there was no danger to children from the milk of tuberculous cattle. I have heard this subject discussed by some of these gentlemen repeatedly, and always the danger from tuberculous cattle was considered practically negligible. Dr. William H. Park, director of the Research Laboratories of the Board of Health, has taken up the subject from a laboratory standpoint and done a masterly piece of work. His conclusions are that upwards of 300 children die in the city of New York every year from bovine infection. What clearer demonstration could be given of the fallacy into which men who study only the clinical side of the question are apt to fall? It is impossible for clinical men to determine this question.

I wish to call attention to Koch's change of position, because it has misled many people, even some who profess to be experts on this subject. In 1901 Koch said practically that there was no danger to human beings from bovine tuberculosis. He put it in this way:

" . . . if such a susceptibility really exists the infection of human beings is but a very rare occurrence. I should estimate the extent of infection by the milk and flesh of tuberculous cattle, and the butter made of this milk, is hardly greater than that of hereditary transmission, and therefore do not deem it advisable to take any measures against it."

This amounted practically to saying that there was no danger from bovine tuberculosis, and this interpretation was accepted all over the world.

In 1908 at Washington, Koch shifted his ground absolutely. However, in his introduction he used words which implied that he still held the opinion expressed in 1901. He says:

"The results of these experiments have led me to the conclusion which I have first communicated to the British Congress on Tuberculosis in 1901."

He acknowledges in these conclusions that "Human beings may be infected by bovine tubercle bacilli, but serious disease from this cause occurs very rarely."

His third conclusion is that "Preventive measures against tuberculosis should therefore be directed primarily against the propagation of human tubercle bacilli."

His further contention, and practically the only one which he maintained strongly, was that bovine tubercle did not produce pulmonary consumption. This change of ground has not been recognized by many people, and it should be understood by everyone. Furthermore, Koch apparently ignored the proof furnished by the German Imperial Commission, although he was one of the twenty-five professors directing this work. He apparently ignored the work of the English Commission and that done by private workers all over the world. It makes very little difference whether one dies of pulmonary tuberculosis or of intestinal or glandular tuberculosis or tuberculous meningitis. We, of course, recognize an academic difference, and also that pulmonary tuberculosis is more dangerous as a focus of infection as a rule than some of these other types, but so far as the death-rate goes, the location of the lesion makes very little difference. It does not concern a bereaved father or mother to know whether a child dies from tuberculosis of the lungs or from tuberculosis of the intestinal tract. The point we must keep our eye on is the fact that the bovine tubercle bacillus does gain entrance to the human body not infrequently and produces a fatal infection. We may acknowledge at the present time that this infection takes place almost entirely in childhood and chiefly during the first five years of life. Dr. Park has collected the following figures: In adults only nine cases of bovine infection have been reported out of 686 examined. However, in children from 5 to 16 years of age, of 132 cases examined, thirty-three were bovine, and of children under 5 years of age of 220 examined, fifty-nine showed bovine infection. These figures amply corroborate the results of the commissions above referred to.

Let us analyze Dr. Park's figures a little further: In pulmonary consumption he examined 294 cases without finding the bovine type of bacillus in any.

Glands of the neck, adults, nine cases examined, none bovine. Children (5 to 15 years), twenty-seven cases examined, 30 per cent. bovine. Infants (0 to 5 years), nineteen cases examined, 68 per cent. bovine.

In corresponding cases collected by Dr. Park from foreign literature, the following results were obtained: Pulmonary consumption, 1,000 cases examined, 1 per cent. bovine. Glands of the neck, adults, twenty-eight examined, 3.5 per cent. bovine. Children (5 to 15 years), fifty-seven examined, 30 per cent. bovine. Infants (0 to 5 years), thirty-six examined, 58 per cent. bovine.

General fatal tuberculosis: Adults (Park), four examined, 0 per cent. bovine. Adults (foreign), sixty examined, 8 per cent. bovine. Young children, five examined, 20 per cent. bovine; young children (foreign), thirty-one examined, 32 per cent. bovine. Infants (Park), seventy-eight examined, 23 per cent. bovine. Infants (foreign), 173 examined, 25 per cent. bovine.

A great deal of evidence of the same sort could be brought forward, but surely we need go no further to demonstrate to the most doubting person the necessity of controlling bovine tuberculosis as a method of protecting the public health.

In regard to cases of pulmonary tuberculosis being due to the bovine bacillus we must accept the evidence at hand. However, a question has arisen as to the possibility of the bovine tubercle bacillus undergoing a change by residence in the human body so that it would take on the characteristics of the human tubercle bacillus. Dr. Welch touched on this question yesterday, and concluded that the weight of evidence was against such a change, admitting, however, that it was still an open question. I may say before going further that it is my belief that such transformation not only can but does take place. How much time is required to bring this about I am not prepared to say.

In experiments at the University of Pennsylvania by Dr. Leonard Pearson and myself, we succeeded in one instance in changing a bacillus of typical human type into one which was typically bovine. I acknowledge freely that the experiment was not repeated. Further than this, every one who has done experimental work in regard to tuberculosis knows that during the long period of time required it is possible for outside infection to occur. It is also possible that an experimental animal may carry a latent tuberculosis of the bovine type. However, every precaution possible was taken in these experiments, and the calves were all tested with tuberculin. After five passages through calves, the culture from being typically human became typically bovine in every respect.

During the last year Professor Eber of Leipzig has published a report of a similar piece of work and come to very much the same conclusion. Nocard succeeded in changing a mammalian tubercle bacillus into one of the avian type by enclosing the culture in a collodion sack and putting it in the peritoneal cavity of a bird. The fish tubercle bacillus described by Dubard almost certainly had its origin in sputum from a consumptive thrown into the stream where the fish were kept. Moller has also changed the type of the tubercle bacillus by passage through the blind worm. It is well known that birds are usually quite resistant to the mammalian tubercle bacillus, yet either by feeding or by inoculation a certain number will succumb. From such a bird the disease can be carried on in series. In other words, the mammalian bacillus has become changed into one of the avian type. Romer has reported an autopsy made on a tuberculous cow in which the intestines and glands were exposed to and eaten by chickens. One after another the whole flock of chickens died of avian tuberculosis. Thus we have good evidence that the tubercle bacillus does change its type and character according to the soil in which it lives. The difference between the mammalian type of tubercle bacillus and the avian type is very much greater than that between the bovine and human.

Further than this, it is well known that the tubercle bacillus under constant cultivation in the laboratory may undergo a loss of virulence and a change in morphology. This is strikingly illustrated in cultures of the bovine type, which after a certain number of generations on artificial culture media, show changes in their staining characteristics and morphology. We have certain observations also of a marked change in virulence, not only in bovine tubercle bacilli, but in human as well. If the tubercle bacillus does not change its type by prolonged residence in a

given soil, it seems to be an exception to all germs of which we have any knowledge. After a number of years of work with cultures of the tubercle bacillus, I acknowledge very freely that it is exceedingly retentive of its type and characteristics, perhaps more so than any other germ which we know, yet I think it must be conceded that changes do take place.

As an example of marked changes which can be brought about in other germs, let us take the anthrax bacillus. Of all known bacteria this is perhaps the most typical spore-former. These spores retain their virulence for years under very adverse circumstances. Yet it is well known that anthrax vaccine is readily produced by growing the germ at a temperature slightly higher than that at which it grows best. In from ten to twenty days a virulent culture can be so modified that it does not produce spores and will not even kill a guinea-pig.

In view of all these facts I am not yet convinced that the finding of bacilli of the human type in cases of pulmonary tuberculosis proves absolutely that the infection in the first instance came from a human being. I am not willing, however, to try and force conclusions which are more sweeping than the facts at hand warrant, and for the present at least must abide by the facts which have been demonstrated. The question is one which requires further study.

All of the work which has been done so far gives evidence that the chief danger from bovine tuberculosis is for children. The work done in foreign lands, as well as in our own country, shows that the great majority of persons infected with the bovine tubercle bacillus are below the age of 15 years, and bovine infection is especially marked in young children under the age of 5. The evidence appears to show that the adult is not particularly susceptible to bovine tuberculosis. This is as far as our present knowledge enables us to go, and this statement is made with the reservation concerning the change in morphology and character which may come about by residence in the human body.

More than a year ago the American Veterinary Medical Association appointed an International Commission to make a study of the best methods of controlling bovine tuberculosis. This commission, consisting of fourteen members, spent a year in studying the subject, and rendered a report in September of last year. This has been published by the Bureau of Animal Industry at Washington, by the Veterinary Director General of Canada, by the Conservation Commission of Canada, and by the American Veterinary Medical Association. It can be obtained from the Bureau of Animal Industry in Washington, or from these other sources. The purpose was to study the principles and lay down the fundamentals for control, hoping thereby to unify the procedures on the American continent. In the United States of America we are in a particularly bad condition, as each state can make its own laws, regardless of what its neighbors wish. Only through our interstate commerce have we any unity of action at all. I would suggest that this association do all in its power to spread this report and assist in having laws enacted in the various states which are in consonance with the fundamentals there laid down. The commission supported the tuberculin test as a safe and early means of diagnosis; in fact, the only reliable means known.

It further recommended the rearing of healthy herds from tuberculous mothers by the modification of what is known as the Bang method. Wherever a large number of cattle are found in any herd which show tuberculosis, the herd must be regarded as infected, and all animals in that herd should be treated as infected. The Bang method, as first practiced, permitted the separation of reactors from non-reactors. This method, however, we consider as containing some dangerous features. Where the herd has only a small number of tuberculous animals the reactors may be separated from the non-reactors, and the latter may be admitted under strict regulations into healthy herds; from the offspring of both classes of cattle a healthy herd may be reared. In addition to this, strict quarantine must be observed and no tuberculous animals be admitted to any country or state. It is impossible to abstract this entire report in this paper, but these are some of the fundamental principles which seemed to be more important.

In conclusion, let me say that in the light of our present knowledge we must admit that man is the chief source of danger to man. However, I personally believe that the percentage of bovine infection in the human being is much larger than is generally recognized. It is our duty, therefore, to demand laws of our legislators enabling us to suppress bovine tuberculosis, which is at once an economic scourge and a menace to human beings. This should be a strong feature in our propaganda for preventive medicine.

THE PRESENT EUROPEAN OPINION OF SALVARSAN

PHILIP FRANK SHAFFNER, B.S., M.D.

CHICAGO

The literature on the subject of salvarsan is practically inexhaustible, and the busy practitioner is unable to read even the abstracts of the various articles published abroad. In view of this fact, a few expository remarks presenting a "bird's-eye" view of the subject will be of value.

The opinions I shall attempt to give are those of the clinicians of Berlin and Vienna. A marked diversity of opinion does not exist so that a composite picture can be presented without doing the subject an injustice.

The true value of salvarsan is unquestionably not as yet determinable, but so far certain definite ideas regarding the Ehrlich discovery have been formulated. The German school considers salvarsan to be of more value than does the Austrian; this is undoubtedly due to personal reasons to a great extent. In a symposium held on the subject in Vienna last November (1910), a statement was made by one of the world's foremost dermatologists to the effect that anyone using "606" was guilty of malpractice. At that time the destructive results of salvarsan in its local reactions were being observed, and it was such conditions which in all probability lead to so radical a statement.

In general, one gets the following opinion of the Ehrlich-Hata :

Salvarsan is unquestionably of considerable value. It is not as efficient as mercury, yet on the other hand a combined mercurial and arsenical treatment is in all probability more effectual than any one drug, including mercury.

The indications for salvarsan are generally held to be as follows :

1. Hard chancres. Those cases which are seen very early ; within several days after their appearance when no glands or exanthemata are demonstrable ; in brief, to be given as an abortive treatment. This means that as such the drug should never be given later than the fourth week after infection. Finger has tabulated two series of cases. In Series A, consisting of twenty-six cases, the following abortive procedure was followed : The chancres were extirpated, which Finger always does whenever possible, and the patients were then subjected to energetic mercurial inunctions. Six of these twenty-six failed to exhibit any further evidence of the disease, including a positive Wassermann reaction ; that is, about 23 per cent. gave evidence, in all probability, of a successful result in an abortive treatment with mercury. Series B, comprised a total of twenty patients : In these the chancres were treated as before and salvarsan instead of mercury was given intravenously. As a result, four cases or 20 per cent. failed to present any further signs of syphilis. According to these figures the mercurial treatment gave even better results than did the salvarsan, but the number of cases is so small that no deductions tending to disprove this indication can be drawn.

2. Lethal indications, that is when the patient is in immediate danger of succumbing to the disorder, the comparatively slow action of mercury would be futile, and so in such cases salvarsan is used. The varieties of these cases are as follows :

(a) Very deep pharyngeal ulceration with danger of an aspiration pneumonia.

(b) Gummata of the brain with pronounced nervous symptoms.

(c) Early syphilitic apoplexy.

(d) Congenital syphilis.

In regard to the latter there is a great diversity of opinion. A mortality rate of 100 per cent., observed by numerous good men, has caused many to hold congenital syphilis as an absolute contra-indication for the drug, while others, more fortunate in their results, claim that salvarsan is indicated in the luetic infant.

(e) In the so-called malignant syphilis where salvarsan should be used cautiously and in a comparatively small dose.

3. Those cases refractive to mercury or potassium iodid.

4. Those patients where a rapid effect is desired to avoid a poor cosmetic result as in deep destructive lesions of the nose, etc.

The contra-indications are as follows :

1. Any other coexisting disease, as organic diseases of the heart, blood-vessels, kidneys, lungs, nervous system, etc.; that is, the drug should be administered only in otherwise healthy patients.

2. All patients over 50 years of age, even if no other disease is present.

3. Those patients responding to mercury or iodids.

4. In those cases where a positive Wassermann reaction exists without any other syphilitic symptoms being present. While on this point it is interesting to note the effect of Ehrlich's remedy on the Wassermann reaction. George Meier, Wassermann's first assistant, has said that fewer negative reactions are observed after salvarsan than after mercury. As a rule, he finds that the reaction does not become negative until four weeks or so after an injection, and then two or even three such injections are required to bring this about. Moreover, many of the negative Wassermans appearing so after one or two injections become positive again. Ninety per cent. of the cases treated with three intravenous injections, all given within six weeks, show a negative Wassermann. Meier believes from the standpoint of the Wassermann reaction that a single intravenous injection is sufficient only in those patients exhibiting symptomatic recurrences of the disease. He also has found that a negative reaction may become positive again twenty-four hours or so after an injection of salvarsan, but he believes that this phenomenon is an example of the Jarisch-Herxheimer reaction, and he has found the same condition after mercurial treatment.

In regard to the untoward effects of salvarsan, Finger maintains that nervous complications, such as neuritis of the optic, auditory, facial nerves, etc., are commoner with "606" treatment than with mercury. Professor Finger found 10 per cent. such complications in a series of cases treated with salvarsan. However, some of the oculists of Vienna claim that optic neuritis is not more frequent with the new treatment than with the old. They point out that since the syphilographers are using salvarsan, a great many more eye-grounds are examined than were before; meaning, of course, that the frequency of optic neuritis, as an example, is not, altogether, an untoward result of the arsenic, but an effect of syphilis itself. Finger also believes this, and, furthermore, he claims that many of these nervous complications respond to either quicksilver or additional salvarsan.

Ehrlich maintains that certain nerves, such as the optic, auditory, facial, etc., do not receive the fullest possible benefit from the arsenic because these nerves, due to their anatomic relations, are relatively poor in blood-supply, and hence comparatively small amounts gain access to their invading spirochetes.

Still another explanation has been offered to account for these nervous complications following the use of salvarsan. It is believed that these manifestations are in reality further evidence of the Jarisch-Herxheimer reaction. Obviously, the question is as yet unsettled.

A number of cases of death following the use of the Ehrlich-Hata are recorded, but Stoerck, who has charge of all the post-mortem examinations of the *Allgemeines Krankenhaus*, has never seen or heard of a single case in Vienna in which death was directly due to arsenic. Even in the autopsies performed on those cases in which salvarsan had been administered some time previously, no evidence of any acute arsenical poisoning was discernible.

Although not bearing directly on the subject, it might be well to say a few words regarding the choice of method of administering this new preparation. Almost everyone in Berlin and Vienna is giving salvarsan intravenously in a feebly alkaline solution. Lately, however, some of the clinicians have fallen back to the deep intramuscular injections, believing that since a *therapia sterilisans magna* is improbable, it is best to give the drug in such a manner as to promote long-continued, slow absorption. The latest method now in vogue in several of the smaller clinics is the mono-acid solution, injected intramuscularly, giving the salvarsan in very small doses at intervals of from ten days to two weeks, much like our mercurial injections, except that in the latter our intermissions between injections are much shorter. The results of such treatments are as yet, of course, indefinite.

The tendency throughout is to give salvarsan in smaller doses, and instead of 0.6, which was the dose when Ehrlich's *therapia sterilisans magna* was attempted, the drug is now being given mostly in an average amount of 0.4.

As to the general schema of treatment, I believe that three methods—one from the Lesser clinic (Berlin), another from the Riehl (the old Kaposi) clinic in Vienna, and a third from Privat Docent Weidenfeld, who has a large *Krankenkassen* clinic—will suffice. Each school in Europe varies somewhat in minor details, but every clinic of any size and importance gives a combined mercury and arsenic medication. The Lesser clinic gives three intravenous injections within a period of six weeks. This is constituted as a so-called "Kur," or as is termed in the United States, a course of treatments, and later it is followed up with mercury either as inunctions or injections. Kren of the Riehl clinic gives salvarsan intravenously, and within two or three days, that is, when the shock of the injection is over, he starts energetic treatment with inunctions giving the usual course of thirty daily rubbings. The patients are then allowed to return home and are told to report in six or eight weeks. As a rule, they fail to do so unless they observe recurrences. In such cases they are put through exactly the same procedure as before, that is, intravenous salvarsan plus mercurial inunctions, or perhaps injections according to the patient.

Weidenfeld (Vienna) claims that a combined arsenical and mercurial treatment is above any other procedure heretofore known. He believes that the Ehrlich will always be used in the future combined with mercury. Weidenfeld gives the salvarsan as follows: First he prescribes a series of salicylate of mercury injections, then immediately after he injects the arsenic intramuscularly in the neutral suspension, believing that the best results follow this insoluble preparation. Three months later he follows this up with a second series of mercurial injections, and finally, as the fourth so-called "Kur," he administers a second intramuscular salvarsan. Weidenfeld prefers to start with mercury because he believes that this drug benumbs the spirochetes, so to speak, and the salvarsan following on the mercury kills the majority of them. He thinks that as time goes on we will be able to cure syphilis completely in one

year's time with two Ehrlich's and two series of mercurial injections given alternately during the year.

Finally in regard to the present European opinion of salvarsan, we can conclude the following:

1. Ehrlich's discovery is a valuable adjunct in our treatment of syphilis.

2. Salvarsan has its specific indications, and in these special cases it should be used in combination with mercury.

3. The untoward results of the drug are probably minimal. The nervous complications are in a measure, from present indications, due partly to the arsenic, but are also the results of the disease itself.

4. The Wassermann reaction becomes negative and remains so only after two or more injections given within a short period of each other.

5. The method of administering the drug varies, but the majority of injections are given intravenously; and, furthermore, in smaller doses than formerly.

6. The general schema of treatment is to alternate mercury "Kurs" with salvarsan.

7. That, after all, we are still in the experimental stage of salvarsan, and therefore, compared to our present knowledge of mercury, little as yet is definitely known.

31 North State Street.

CHICAGO CITY BUDGET FOR 1912

Now that the city budget for 1912 is up for consideration, the question of providing needed funds for carrying on in an efficient way the various activities of the Department of Health is certainly of vital importance to the people of Chicago. This statement must not be taken as putting into the background or in any manner ignoring the importance and value of any of the other branches of the municipal service.

The commissioner of health, however, has a keen sense of the responsibilities resting upon him as head of the department that is peculiarly charged with the duty of protecting and conserving the public health. In this article then, as well as in those that are to follow, the aim will be to present the needs of the Department, the work it is doing and what that work means as affecting the health and comfort of the people.

The commissioner takes it for granted that all good citizens of Chicago desire an efficient and progressive health service at his hands. Last year's methods will not always do this year's work in the best way. Each year brings new knowledge that must be applied in public health work. Not to advance means to fall back. But men and means are needed to keep the Department in the place it has so long held among the leading municipal health departments in the world.—From *Bulletin, Chicago Department of Health*.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY

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OCTOBER, 1911

THE STANDING OF THE INFERIOR CHICAGO SCHOOLS IN NEIGHBORING TOWNS

It was recently stated in THE JOURNAL, that the inferior Chicago schools were in such bad standing in other states, that their graduates were not permitted to appear for examination, and as a natural consequence their crude products were compelled to take the Illinois examination, and when passed by the benevolent Board of Health came in active competition with the already overburdened medical inhabitants of "suckerdom."

To secure confirmation of this statement from our neighboring states we prepared the following letter which we sent to the executive officers of Indiana, Ohio, Pennsylvania, New York, Kentucky, Missouri, Iowa, Minnesota, Wisconsin, and Colorado:

"SECRETARY OF STATE BOARD OF HEALTH OR MEDICAL EXAMINERS.

"*Dear Doctor:*—Will you kindly inform me whether your board admits to examination the graduates of the following Chicago schools, to-wit: Hering Medical College, Chicago College of Medicine and Surgery, Jenner Medical College, Reliance Medical College and The National Medical University.

"Also what is your rule regarding the examinations of graduates of the following institutions, all of Chicago: Littlejohn College and Hos-

pital (Osteopathic), Illinois Kiro-Practic University, National School of Chiropractic and Physiological Adjustment, McCormick Neurological College, Oakley Smith College of Naprapathy, American College of Mechano-Therapy, Northern Illinois College of Ophthalmology and Otology, Chicago School of Optical Science and Mental Therapeutics."

Up to the time of going to press we have received replies from six of these states. We digest their letters as follows:

STATE OF NEW YORK
EDUCATIONAL DEPARTMENT
ALBANY

"*Dear Sir:*—I beg to say that the Hering Medical College is accredited with three years only by this department; Jenner Medical College is accredited with two years; Reliance Medical College and National Medical University are not even accredited; Chicago School of Medicine and Surgery is fully registered; Littlejohn College and Hospital (Osteopathic), is accredited with three years; the other institutions you mention are not recognized at all by us.

"In order to be admitted to a licensing examination in this state, the applicant must not only hold the M.D. degree from a registered institution but will be required to furnish evidence of the required preliminary education. Hence it will be seen that of all the institutions mentioned above, only the Chicago School of Medicine and Surgery is recognized as graduating students who may enter our licensing examinations providing they meet our further requirements. Yours truly,

"A. S. DOWNING, *First Ass't Commissioner of Education.*"

"P. S.—Since writing the above, some question has arisen in regard to Chicago School of Medicine and Surgery, and the desirability of continuing its registration."

WISCONSIN BOARD OF MEDICAL EXAMINERS

"*Gentlemen:*—In reply to your favor of the 19th inst. we wish to state that we recognize none of the graduates of the medical colleges mentioned in your letter, nor do we have anything to do with any graduates of the schools mentioned in the second paragraph of your letter, except the Littlejohn School of Osteopathy, whose graduates are accepted for examination the same as other reputable medical colleges.

"Yours sincerely,

"JOHN M. BEFFEL, *Secretary.*"

THE MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

"*Dear Sir:*—In compliance with your request of September 19th, I beg to say that our board does not recognize nor admit to our examinations graduates of Hering Medical College, Jenner Medical College, Reliance Medical College and National Medical University.

"We have nothing whatever to do with the other institutions mentioned in your letter and they are not recognized by this board.

"Minnesota has its own Board of Osteopathic Examiners, and a Board of Optometry. Yours truly,

"W. S. FULLERTON, M.D., *Secretary.*"

THE STATE OF OHIO

"A list of medical colleges acceptable to the Ohio Board will probably be acted upon at the meeting on October 3.

"We have been registering applicants from the Hering Medical College and have also recognized credentials from the Chicago School of Medicine and Surgery, likewise the Jenner Medical College. We have never had occasion to pass upon the credentials from the Reliance Medical College nor the National Medical University. The Littlejohn College and Hospital (Osteopathic), has also been recognized in the past. No applications from either of the other schools mentioned in your communication have come before us for consideration.

"Very Respectfully,

"GEORGE M. MATSON, *Secretary.*"

STATE BOARD OF HEALTH OF KENTUCKY

"None of the colleges named in your letter of the 19th instant are recognized as reputable by this board.

"Very truly yours,

"J. N. McCORMACK, *Secretary.*"

IOWA STATE BOARD OF MEDICAL EXAMINERS

"In reply to your communication of September 19th, I have to say that this board recognizes diplomas from the Chicago College of Medicine and Surgery and Hering Medical College, but does not recognize diplomas from the National Medical University. We have had no applicants for examination from Jenner or Reliance for several years, therefore it will be impossible for me to say whether or not applicants from these schools would be admitted to examination by this board.

"The Iowa statutes do not recognize Chiropractics.

"GUILFORD H. SUMNER, *Secretary.*"

INDIANA STATE BOARD OF MEDICAL REGISTRATION AND EXAMINATION

"*Dear Sir:*—Replying to your inquiry of some days ago, beg to say that it is the policy of this board not to pass upon the standing and credibility of a medical school until an applicant comes up for examination from said school, then the matter is brought to the board's attention and passed upon.

"Graduates from the National Medical University, the Jenner and Reliance Medical Colleges are not admitted to the Indiana examination for license to practice medicine.

"Graduates from the Littlejohn College and Hospital (Osteopathic), who have, by documentary evidence, satisfied this board that they have attended four courses of instruction in said institution, of not less than eight months each in separate calendar years, are admitted to the osteopathic examination.

"The Illinois Kiro-Practic University, National School of Chiropractic and Physiological Adjustment, McCormick Neurological College, Oakley Smith College of Naprapathy, American College of Mechano-Therapy, Northern Illinois College of Ophthalmology and Otology, and the Chicago School of Optical Science and Mental Therapeutics have no standing with this board for the reason that we have no knowledge of said institutions and have had no applicants coming from the above last named institutions.

"Applicants from the Hering Medical College have been admitted to the Indiana examination up to the present time. We recognize, however, that this school is perhaps not equipped as it should be and will perhaps take the matter up in a short time and determine whether or not it shall be further recognized in Indiana. Very truly,

"W. T. GOTT, M.D., *Secretary.*"

LACERATION OF THE PERINEUM

An original and effective method of curing laceration of the perineum has been proposed by Dr. A. Lapthorn Smith, of Montreal, Canada. His contribution was published in the *Medical Record* of July 29th. Dr. Smith's suggestion has created a great deal of interest among obstetricians and the operation is so easily performed even in private practice that we publish a description for the benefit of our readers.

"Just before the child's head comes down on the perineum, the patient is anesthetized and brought across the edge of the bed with the feet held by a twisted sheet or leg holder. The perineum is sterilized with a soap and brush and mercuric bichlorid, and then with the large curved perineum needle on a handle, furnished by Chapman of Montreal, held firmly in the right hand, and with the thumb of the left hand in the anus and the left forefinger in the vagina the needle is entered at the base of the lesser lip on the patient's left, taking in the levator ani muscles and passed rapidly under the vagina, and about two and one-half inches above the fourchette, coming out of the corresponding point on the woman's right side. A silkworm gut suture is threaded into it and the needle is withdrawn, followed by the silkworm gut, the two ends of which are caught up with two Pean forceps. A second one is passed in the same way an inch lower down, but taking in the muscles of the perineum. We can generally tell beforehand, by the rigidity of the perineum, whether the tear is going to be a bad one or not. In the former case we can put in

a third stitch, which would take in the sphincter and on each side of the middle line. Delivery can now go on naturally or artificially, but as soon as the placenta has been delivered the perineum is inspected under a good light and a stream of water, all clots being rubbed off with the finger; the stitches are tied from above downward, when we will find that there is absolutely accurate coaptation of the separated parts.

“Speaking of the light in the confinement room, especially of the poor, we should always take steps before delivery to provide a good light for two reasons: That we may see how dirty the place is, and second to see what we are doing. As a rule, a darkened room means a dirty and badly ventilated one. In the daytime, arrange the patient so that the perineum will be facing a bright window; and if the confinement is likely to take place at night, provide beforehand for a good light easily available for examining the perineum. When we hear physicians say that they have never seen a tear of the perineum they may be telling the truth, because they have attended all their patients in a dark room. The presence of the silkworm gut stitches placed as stated before the head comes through the perineum, and hanging loosely attached by their ends to a Pean forceps, does not interfere with the termination of the labor in any way, not even when the forceps is required. If by keeping the pain under control and the head well towards the symphysis, there has happily been no laceration of the perineum, no harm is done by their having been introduced, you simply take off the forceps and draw them out, while if the perineum has been lacerated more or less, it is a great advantage to save time by having them already in, but still more by having them exactly in the right place to bring the lacerated surfaces together, just as they were before delivery. Placing perineal sutures before the tear occurs is ‘an ounce of prevention worth a pound of cure.’ ”

BOVINE TUBERCULOSIS

As promised in our July issue, we take pleasure in presenting the paper on this subject prepared for the meeting at Denver, June 21, 1911, by Professor Ravenel of the University of Wisconsin, and an acknowledged authority on this subject. Professor Ravenel was at the conclusion of this meeting elected president of the National Association for the Study and Prevention of Tuberculosis. The honor of this high position gives added weight to the language of his paper and his private conversation regarding the disgrace suffered by Illinois in its legislature and State Board of Health. We hope our readers will study the whole paper, which is a sane and truthful statement of the subject. We quote only two paragraphs which are of especial importance to our members.

“Especially active has been the legislature of Illinois, where a commission, headed by a lawyer, was appointed to determine the scientific accuracy of the tuberculin test and the pasteurization of milk. This commission, composed of eight laymen and two physicians, have brought in a report which declares against the necessity of the tuberculin test, but admits, as it must of necessity in the face of the evidence, that tuberculosis

does pass from animals to man. This report has already been used in legislation to let down the bars. *It is therefore important to those who are interested in the preservation of public health to continue the fight for pure milk.*"

"In conclusion, let me say that in the light of our present knowledge we must admit that man is the chief source of danger to man. However, I personally believe that the percentage of bovine infection in the human being is much larger than is generally recognized. It is our duty, therefore, to demand laws of our legislators enabling us to *suppress bovine tuberculosis, which is at once an economic scourge and a menace to human beings*. This should be a strong feature in our propaganda for a preventive machine."

THE DAWN OF A BETTER DAY

For many years the medical profession has had just cause for complaint against the miserable advertisements of patent-medicine fakes and charlatans in rural publications. However, these advertisements are not limited to the rural press. It now appears that at a recent meeting of the Farmers' Press Association, held at the Hotel La Salle in Chicago, there is to be a stop to the printing of such fake ads., and we have great hopes this movement will finally result in influencing the metropolitan press to protect their readers from this piratical class.

The Chicago *Tribune* of Sept. 14, 1911, contains the following information on this subject:

"Fake land, patent medicine, whisky and general misleading and exaggerated advertisements are to be excluded from the rural publications according to the vote of the Farm Press Association at its final meeting in the Hotel La Salle yesterday.

"F. J. Merriam of Atlanta, Ga., vice-president of the organization and manager of the *Southern Ruralist*, said: 'The average city resident picking up a rural weekly would think that all farmers were suckers. It's an insult to the intelligence of our readers. I am glad that the papers represented in the Farm Press Association are to exclude these fake ads.'"

SPREAD THE KNOWLEDGE

Dr. W. C. Bouton of Waukegan has printed on the back of his prescription blanks the following statement made by Dr. Frederick Peterson, a well-known New York neurologist.

Dr. Bouton suggests that the universal use of some such statement on physicians' blanks would do much to call attention to the bad effects of alcohol.

"ALCOHOL IS A POISON

"It is claimed by some that alcohol is a food. If so, it is a poisoned food. The daily regular use of alcohol, even in moderation, often leads

to chronic alcoholism. One is poisoned less rapidly by the use of beer than by drinking wines, gin, whisky and brandy.

"Alcoholism is one of the commonest causes of insanity, epilepsy, paralysis, diseases of the liver and stomach, dropsy and tuberculosis. A father or mother who drinks, poisons the children born to them so that many die in infancy, while others grow up as idiots and epileptics."

FROM THE MADISON COUNTY DOCTOR

The following article, undoubtedly from the pen of Dr. E. W. Fiegenbaum, secretary of the Madison County Medical Society, which appeared in the September issue of the *Madison County Doctor*, is a graphic portrait of that class of men said to be rapidly disappearing, and we are glad to give place to this interesting communication.

THE OLD FAMILY DOCTOR

Forty years ago a man well past middle life, was seated in a room, engaged in earnest conversation with an elderly lady. The room was furnished meagerly, but bore a semi-professional air, for on the walls hung a small shelf filled with books, some cheap prints and a bust of Æsculapius. The conversation was on the subject of the visitor's son, who had gone to a distant city and now was in great trouble. The mother instinctively turned to the old doctor for advice and counsel, and he in turn dismissed her, with a promise that her son would receive the necessary help through an intimate friend, a colleague residing in the city.

As the lady passed out, a young man entered whose child was sick. Filling a bottle with the selected remedy, and giving many directions for its use, the young man was sent home to begin the treatment. The old man with a sigh snatched up his saddle bags containing about all his stock in trade and hurriedly left the room to saddle his old gray mare and begin his daily rounds. As he rides through the streets of his little town, he is greeted with a nod and a friendly smile by every one he meets, for they all know and love this kindly old man.

Just outside of the town he stops at a farm-house to visit a ten year old lad whose leg was fractured a week ago. With awkward fingers he adjusts the board splints with bandages torn from an old sheet, and though the operation causes the lad to wince with pain, he smiles at the old man, for he knows that the old doctor is his friend and would not cause him needless suffering. With a cheery nod and farewell, the old man departs, only to stop again two miles further on. Here in a small homely chamber, only yesterday, the battle of life and death was on; aye, not only one but two lives hung in the balance, but the old doctor was the victor and the young mother smiles as he enters, as if she had seen the face of an angel, and as the old doctor departs the benediction of that household follows him. On the road he meets a patient to whom he administers out of the old saddle bags, and resumes his journey. A little farther on he stops to visit a man who has typhoid fever. The surroundings from a hygienic standpoint are bad, but it was the best that could be had. The patient is desperately sick, anxiety is depicted on every face, and the doctor looks perplexed. The bread winner is making a fight, and if it should prove to be a losing one the family will lose its main stay and will be left in bad condition. All of this weighs heavily upon his mind as he is called to share the family dinner. Reverently he bows his head and partakes of the homely fare, when he again visits

the sick room, and with many assurances of the ultimate recovery of his patient mounts his faithful horse, whose welfare has also been looked after during the stay.

He must hurry along for there are still many calls to make and he must be back in time to preside at a town meeting of his fellow citizens, called for that evening. As he rides along his mind is occupied by many things. His prophetic eye sees that a change is about to take place in his profession. One by one the doctors of the old school drop by the wayside. The old type is disappearing and a new one coming in. Better did you say? Well, let us hope so. Will the new doctors be as patient and sympathetic as were they of the saddlebags? Will they be as conscientious? Has not commercialism crept in and destroyed every vestige of the old time intimacy between the family and the doctor? Does the new generation of doctors help to bear the family burden, share in the family joys and woes, or do they furnish so much service, for so much cash? Brave old heroes, they did the best they could with the appliances they had at the time, and did it well. All honor to their memory.

The old doctor starts out of his reverie, urges his steed to a faster gait as he views the declining sun. There he goes up the hill, beyond which he must make another call. Now he has reached the top; now he descends on the other side. Slowly he fades from our sight. Now he is gone. Goodbye old family doctor. We will see him no more.

He never sought, in life's industrious ways,
A large return or loud or lasting praise;
But to the sacred task which Heaven assigned,
In pain's hushed chamber gave his strength and mind.
Believing so he served his master best,
Trusting the Great Physician for the rest.

NEW COUNTY BULLETINS

The Adams County Medical Society and Williamson County Medical Society have recently commenced the issuing of neat and newsy monthly bulletins in the interests of those organizations. The expense of printing and circulating these bulletins is probably altogether borne by advertisements which have been obtained from local business men of the county seat in which the society is located. Undoubtedly the effect of these publications will be to more closely unite the profession in the respective counties.

THE HEALTH COLUMN IN THE CHICAGO TRIBUNE

The Chicago *Daily Tribune*, for many years known as one of the most progressive and ably edited papers in the world, has added another new feature in its columns entitled the Health Department. Dr. Evans, long connected with the Chicago Health Department, and as a teacher in the principal medical colleges of Chicago, has had excellent training to make a success in this field. Judging from the articles that have already appeared in the *Tribune*, this new feature is destined to do a great deal of good for the cause of sanitation and rational medicine.

THE OTTAWA TENT COLONY

A recent visit to Dr. Pettit's Tent Colony, at Ottawa, gave us an opportunity of again viewing this excellent institution, and we with pleasure note that the institution is being kept up to date in every particular. A new and commodious office building is being constructed, and superior accommodations will thereby be furnished to all patrons of the colony. The staff of the colony has been enlarged, and it appears to be the constant effort of the authorities in charge to make the institution up-to-date and effective. A monthly journal is issued in the interest of all sufferers from tuberculosis.

Correspondence

PATIENTS FROM WHITE CROSS LEAGUE NOT RECEIVED

WAUKEGAN, ILL., Sept. 7, 1911.

To the Editor: The following letter was mailed to-day to Dr. D. C. Moulding, President of the National White Cross League Association:

"At a meeting of the Directors of the Lake County Tuberculosis Institute, held September 4th, it was unanimously decided to receive no more patients from the National White Cross League of Chicago.

Respectfully,

W. G. BOUTON, M.D., Secy.,

W. H. WATTERSON, Manager.

ALCOHOLIC PHYSICIANS

CHICAGO, ILL., Sept. 17, 1911.

To the Editor: I can not do much, but such as I can, I am willing to do with the best of my power. I can not reform a lot of Doctors, but I can and hereby desire to express my appreciation of your editorial in last month's JOURNAL, on the change of attitude in the medical profession in reference to the liquor question.

I am positive in my conviction, that if medicine will arrive at the height to which it is destined to ultimately go, the drunken, tobacco-soaked physician must also go, for the Doctor by his example must lead a pure life, if he expects his fellow-beings to follow his example. I wish to thank you, and to encourage you along this line.

Sincerely,

DANIEL S. HAGER, M.D.

740 West Madison Street, Chicago, Ill.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY

The members of the Adams County Medical Society believe in the old saying: "All work and no play makes Jack a dull boy." Accordingly instead of the regular routine of business, the members went for a good time on August 9. They started early in the morning for the Big Lake Hunting and Fishing Club, which is situated several miles south of the city. The trip was made in autos, and the weather being just right, caused every M.D. to smile. Various games and sports were indulged in during the day, and the doctors tried their physical strength in more than one way.

The most important events of the day were the delicious meals prepared by two excellent chefs, from Quincy. Everything edible and seasonable was procured. After such strenuous exercise, everyone's appetite was stimulated, and you know how the good things disappeared. This society holds an outing every year, usually during the month of August, and this one was voted one of the most enjoyable and best attended for many years.

September Meeting

The regular monthly meeting of the Adams County Medical Society was held Sept. 11, 1911, at the Hotel Newcomb. The meeting was called to order by President Knox. Others present were: Drs. Nickerson, Rice, Wells, Montgomery, C. R. Bates, Pearce, Stine, Koch, Irwin, Austin, Kirk Shawgo, Christie, Ericson, Knapheide, Warner, Williams, Ball, Center and Retiker.

The minutes of the last meeting were read and approved. The first matter for consideration was the proposed amendments to the Constitution and By-Laws of the State Society. After the reading of the same by the secretary it was moved and seconded that they be taken up in sections. Accordingly each amendment was thoroughly discussed before action was taken on it. When this business was completed it was time for lunch, so we repaired to the dining room.

In the afternoon a discussion was held concerning the advisability of securing a permanent meeting place. For this purpose a committee was appointed consisting of Drs. Irwin, Pearce and the president, Dr. Knox.

Resolutions relative to the consolidation of the two-telephone system were introduced and adopted by the society. The substance of the resolutions is as follows: That the two-telephone system is an annoyance, a burden, and unnecessary expense, and has been proved such in every city in which it has been tried. The same service can be given by the one-phone without the annoyance and useless expense of the two-phone system.

The scientific program consisted of a "Symposium on Cerebrospinal Meningitis." Very interesting papers were read by Drs. Montgomery, Pearce and Knapheide.

This was the first issue of *The Adams County Medical News*, the monthly bulletin of the society. Heretofore printed notices have been sent to the members, but the bulletin is the up-to-date way, and we want to be in style. Adjourned.

ALEXANDER COUNTY

The Alexander County Medical Association held its regular monthly meeting Wednesday evening, Sept. 20, 1911, at the Cairo Commercial Club rooms. A large number of physicians were in attendance. Reports on interesting clinical cases were heard and discussed. Dr. J. B. Hibbits read an interesting paper on "Dis-

locations." The discussion on the subjects was led by Dr. H. A. Davis, and was participated in by all present. Dr. Samuel Doods, vice-president, occupied the chair in the absence of Dr. S. B. Cary, president of the association.

Following the regular literary program luncheon was served.

CLAY COUNTY

The Clay County Medical Society met at Flora, August 8, 1911. The following were present: Drs. Shore, Walton, Bowman, Boyles, Hazel, Gilson, Oark and Dr. Kreider of Springfield. Dr. Kreider addressed the members of the Society on "Abdominal Surgery," which was very much enjoyed by all present. The Society adjourned to meet at Flora, in September.

COOK COUNTY

CHICAGO MEDICAL SOCIETY, ENGLEWOOD BRANCH

DOCTORS' HOBBIES

CHARLES HADDEN PARKER, M.D.

CHICAGO

Mr. Chairman, Fellow Practitioners and Ladies: I have been asked to speak to you to-night on "Doctors' Hobbies." I confess it is a hard subject to work on. I know not exactly where to begin or where to let go. But if one wishes to speak of it as a disease it can be classified as epidemic and contagious, but in no two persons are the symptoms the same. The onset may be sudden or gradual, with more or less fever or excitement. Patient is restless, often irritable, especially when other treatment is suggested. The duration of "hobbies" has quite a range. It is often a self limited disease. Sometimes the most severe attack is the shortest in length of time, but it does not render the patient immune to another attack, which may take another form. The immunity bath cannot be administered in this ever present "itis hobbium." It is most prevalent among Americans. It clutches the brain and mind of nearly every one at some time of his or her life, and carries them through a labyrinth of thought and actions, intensity of feelings, and hurries each on to do and delve into the hidden mysteries of earth. Strangely they follow the hobby, always thinking, ever dreaming of the ultimatum and the reward that will be theirs when the hobby is at last run down and captured.

As to the treatment of "hobbies," let patient alone, keep the mind hopeful and try and give a little relaxation at times but, assuming that patient is overridden with professional work, the hobby will be relaxation enough in itself.

The prognosis and sequelæ will be good, and the reward will be experience and knowledge not otherwise gained.

Now, friends, I am in favor of "Hobbies." They are a great thing. They are necessary to us as a nation. They tell me in Europe that fads and hobbies are what makes America what she is to-day. And hobbies are what the nation needs to develop its resourcefulness. A great many people deride fads and hobbies as wasters of time. I used to know an old man in California who had the airship and flying bug so bad that nearly every one considered him insane. I used to listen to him tell me that some day the air would be full of flyers, and that people would go from one city to another in them. He was very dignified and earnest and thoroughly believed in his own ideas. And that is what we all need; more faith in ourselves. And if we get a new idea, run it down, get all there is in it, and then try another. That is the way we educate ourselves. You each know well, that when you run down a hobby to your own satisfaction you know more about the subject than your neighbor, or more than you would if some one told you about it. Each of you no doubt have been deeply interested in a spe-

cialty, and have taken post-graduate courses to perfect yourselves in it. You may become interested in an idea and you begin studying it up with an earnestness equaling your post-graduate work, that is giving yourself a post-graduate course in the new idea.

It expands the brain, broadens the mind, and even if dropped is never entirely forgotten, and if ever the subject is brought into prominence one can talk intelligently on it. Herbert Spencer said that he learned a new language every few years, just to keep his brain active and facile. A hobby may show itself in many shapes or forms. One may be interested in wood working, metal working, leather working, art, literature, music and many other things.

You ask me what benefit hobbies have been to me. I will enumerate a few things. I and my children have built two houses with our own hands, one of cobble stones and cement, the other of wood. I can make a good violin. I can build an airship, make an automobile run when others fail. Make any sort of jewelry. My father taught me how to make a jack-knife that would cut out a hair. I can bind a book in any style, in short am able to make anything that I cannot afford to pay cash for, and get great pleasure out of the making. I must say that if one ever wishes to travel that person will find quite an advantage to be gained if he or she has successfully passed through the language hobby. For instance, if one goes to Europe, the French, German and Italian languages are mighty handy accomplishments to have. In my own family I encourage learning all they can about things that are useful, even if no future is in sight to make use of it. I studied at French, German, and Spanish languages evenings and after office hours, and each grown-up member of my family did also. We had no prospects of ever going abroad till suddenly a chance came, and you can imagine how well those languages came to our aid. I had been a camera enthusiast at one time and that also gave us many a souvenir of our trip not to be gained any other way. I have been a night student at the Art Institute for some time and found that sketches in color were pretty fine remembrances to bring home. I spent many an hour making sketches of the celebrated old masters in different cities abroad. Such studies are quite valuable here in America. We knew enough about art that we could intelligently go through a gallery and feel that we had gained something. My family and I have also studied several branches of music, and we had more pleasure listening to good music abroad than had we been ignorant of the subject.

I would suggest to one who has a liking for doing things with the hands that it is a fine thing to work metals, because many ornamental articles like jewelry can be made, and broken articles of value repaired. I tell you, friends, that I have great joy in the thought that I can repair almost any article that is broken and I can make any article that is needed. I am often confronted by someone who wants to know when I get time to do all these things. I can only say this, I have always been able to find time when I wanted to learn about some new thing. Where there is a wish strong enough there is always a road. And in closing I wish to add this much for serious thought. Do you, ladies and gentlemen, realize that so far as you and I know, there is only one life for each of us, and that there are no pockets in the costume we will at last put on? That we take ourselves too seriously; that we work as if we had a quit claim deed to future existence. Friends, breadth of thought gives knowledge, and knowledge gives capacity, and capacity is what one wants to get all that is worth having in the brief time each person is given to spin the dainty thread of life. My wish for each of you is, that you spin this thread so that you will get your full measure of vibrations from its beginning to its very end.

4002 Cottage Grove Avenue.

CRAWFORD COUNTY

The Crawford County Medical Society held its regular meeting September 14, in the Carnegie Library, Robinson, Ill. The meeting was called to order by the president Dr. G. H. Henry and the minutes of the previous meeting were read and approved.

The following members were present: Drs. Carlisle, Davis, Price, Newlin, Dunham, Firebaugh, H. N. Rafferty, Lowe and Henry.

Dr. J. W. Carlisle read an interesting paper on "Chronic Constipation," which was very well received. It was moved, seconded and carried that the paper be received for discussion, which was opened by Dr. H. N. Rafferty and participated in by the entire society.

A resolution from E. W. Weis relative to the members of a local medical society becoming ipso facto a member of the American Medical Society was read but no action was taken upon this matter.

Upon motion duly seconded and carried the Society adjourned.

A. LYMAN LOWE, Secretary.

MADISON COUNTY

The experiment tried at our last meeting was a magnificent success and resulted in the best meeting we ever had. The subject was "Law and Medicine," and was presented in a very able paper by Mr. C. H. Burton, of Edwardsville, and most thoroughly discussed by Morgan Le Masters, of Granite City, M. D. Powell and Judge W. E. Hadley, of Collinsville, Wm. P. Boynton, of Alton, and D. G. Williamson and Mallory Burroughs of Edwardsville. All of above named are prominent members of the Madison County bar, leading lawyers in this part of the state, and developed during the afternoon a vast amount of practical and valuable information. It was a great meeting and the secretary has been requested to arrange for a similar meeting in the near future. Dr. John H. Veatch and Dr. Fred E. Glauner, both of Marine, were admitted to membership.

Members present: Hirsch, Ferguson, Burroughs, J. H. Fiegenbaum, Sims, Smith, Yerkes, Merwin, Ihne, Hastings, Wahl, Barnsback, Pfeifferberger, Dorr, Oliver, Brown, Kerchner, McKinney, Wharff, Cook, Wedig, Robinson, Sutter, Cowan, Everett, Zoller, King, Davis, Veatch, Glauner and E. W. Fiegenbaum.

Visitors present: Dr. D. S. Booth of St. Louis, Dr. C. W. Lillie of E. St. Louis, Dr. P. S. Weidman, Edwardsville, Dr. Thos. C. Marion of Worden. Dr. G. B. M. Ervin of Granite City, Dr. H. G. Baird of Edwardsville, Dr. Michael, veterinary of Collinsville, and Mr. W. K. Brown, medical student of Troy.

The next meeting will be held in Edwardsville October 6, when Dr. W. K. Newcomb, of Champaign, president of our State Society, will be our guest and the principal speaker.

M'LEAN COUNTY

The McLean County Medical Society met in regular session June 1, 1911, in Council Chambers, Bloomington, Ill. The president being absent, Vice-President Dr. Fred C. McCormick presided during the business session. Later Dr. J. L. Yolton was called to the chair. Committee on amendment to the constitution reported a proposed amendment to article 7, the report accepted and committee continued with instructions to report a general revision of constitution and by-laws. Dr. Chas. W. Ritter, of McLean, Ill., and Dr. M. Wallis, of Normal, Ill., were elected to membership in the society. The following resolution was unanimously adopted:

WHEREAS, Dr. Lee Smith has been an honored member of this society for fifty-five years, and when he reaches the next milestone will have lived four score years; as an evidence of our high regard and personal esteem for him be it

Resolved, That he be made a life member of this society.

Dr. Rhodes read a paper on "Medical Progress of the Year," and Dr. Vandervort a paper on "Surgical Progress."

Meeting of September 11, 1911

Dr. Carl E. Black of Jacksonville was the guest of the McLean County Medical Society at the regular session held in council chambers, Bloomington, Ill., Sept. 7, 1911. A few of the members enjoyed a social hour with the doctor at 6 o'clock dinner at the Illinois Hotel when they retired to the council chambers, where the regular session was called to order by the president, Dr. R. A. Noble.

After a short business session Dr. Black addressed us on "The Medical Library and Card Index System," laying special emphasis on the necessity of higher medical education, the society as the practitioner's post-graduate school, and the necessity of equipping such a school with a public medical library. He also explained the use of the Dewey system of classifications of subjects. The stereopticon was ably handled by Prof. Pearce of our city. The paper was well received by the society and will be of special aid to the Library Committee.

THOS. D. CANTRELL.

SANGAMON COUNTY

The Sangamon County Medical Society held its first fall meeting at the Lincoln Library, Springfield, Sept. 11, 1911, at 8:30 p. m. The time was given over to the consideration of clinical cases, several of which were presented and fully discussed. There was a large attendance and unusual interest in the proceedings.

ST. CLAIR COUNTY

On Wednesday, Sept. 6, 1911, occurred the conjoint meeting of the St. Louis City Hospital Alumni Association and the St. Clair County Medical Society. Priesters Park had been reserved for the event, and many doctors who attended, brought their wives and daughters. The weather was sultry, but Jupiter Pluvius did not intrude, remaining at a respectful distance until all guests had reached their respective homes. Considering that the weather was favorable; that the event had been advertised, and a good attendance agitated for a matter of seven months; that the first society has a St. Louis mailing list numbering 150 doctors, and the second a mailing list of 87 doctors; the attendance fell far below normal expectations.

Dr. Luedde, president of the City Hospital Alumni Association, being out of town, Dr. C. S. Skaggs, president of the St. Clair County Medical Society called the meeting to order at 4:45 p. m.

MEDICAL PROGRAM

1. Tumors of the Parotid Gland.—Dr. W. S. Wiatt, East St. Louis.
2. Vaccination: A Few Facts.—Dr. Joseph Grindon, St. Louis.
3. Ovarian Pregnancy at Term: Specimens.—Dr. W. C. Kirchner, St. Louis.

In addition Dr. Tharp of East St. Louis presented a clinical case of Elephantiasis and a collection was taken up for the benefit of the patient. Dr. Joseph Grindon of St. Louis, gave a lengthy talk on the "Etiology of Elephantiasis," and described the various filaria. Dr. Wiatt's paper on "Chondrifying Tumors of the Parotid Gland," was well received and ably discussed by Drs. Kirchner and Bailey of St. Louis. An argument arose between the latter two members as to the circumstances under which the facial nerve might be saved from injury in surgery of the parotid gland. Dr. Bailey maintained that whenever the entire gland was removed, the nerve was invariably severed; whereas Dr. Kirchner mentioned two cases in which he removed the parotid gland with its tumor and avoided facial paralysis.

Dr. Joseph Grindon lectured on "A Few Facts on Vaccination." He attacked the antivaccinationists and gave statistics which proved the value of vaccination as a protection against small-pox, and dwelt at length on the Franco-Prussian war. In this war the Germans were pretty generally vaccinated and their mortality from variola was very small, while the French, who were poorly vaccinated, lost more soldiers from small-pox than from battle wounds, even when the belated deaths from wounds were considered. Dr. Kirchner followed with a paper on "Ovarian Pregnancy at Term." He demonstrated the fetal sack and showed a photograph of the extracted child when nine months old. Dr. Kirchner was unable to find in the literature any other case in which an ovarian pregnancy had gone to term, and both mother and child survived the operation.

After the discussion of this subject the scientific program was closed, and all present, together with their lady guests adjourned to the banquet hall, where a table long enough to accommodate all guests was loaded with edibles; chickens incorrectly labeled 1911 formed the nitrogenous portion. During the banquet the Belleville orchestra rendered appropriate selections.

It had been planned to have the ladies entertained by a lady lecturer while the gentlemen attended the scientific meeting, but for some reason unknown to the writer she did not appear.

After the banquet dancing was in order, and at a late hour we deserted the park.

The only regrets expressed were that the ladies had to entertain themselves most of the time, and that the attendance was far below the expected and deserved number. Those present:

From St. Louis: Mesdames Welpby, Grindon, Falk; Misses Kirchner and Zimmermann; Doctors Simon, Theve, Falk, Grindon, Bailey, Kirchner, Horwitz, Whelpby, Kane, Mook, Hurford, Clapper, Gundlach, Pitzman and North.

From Belleville: Mesdames Raab, Massie, Wanglein, Hilgard and Miss Raab. Doctors Hansing, Miller, Otrich, Duey, Herold, West, Starkel, Hilgard, J. Twitchel, Raab, Rayhill, Reis, Massie, Wanglein.

From East St. Louis: Mesdames Rendleman, Campbell, Skaggs. Misses Meehan and Fekete. Doctors Campbell, W. E. Wiatt, Hagarty, Wiggins, Fairbrothers, Skaggs, Rendleman, Tharp, W. S. Wiatt, Cannady and Zimmermann.

If any names have been omitted, it has been done inadvertently.

CARL A. W. ZIMMERMANN, Secretary.

A UNIQUE FRACTURE OF THE UPPER THIRD OF THE HUMERUS, ITS CARE AND ATTENTION *

DR. L. W. WRIGHT, M.D.,
ALEDO, ILL.

July 5, 1910, a patient, aged 21 years, was drawn into a lathe at the American Brake Company Works, St. Louis, Mo. Before the machinery could be stopped he had suffered four broken ribs and his left arm was fractured in two places. He was taken to the Association Hospital, where he was cared for. The patient's history of the case up to the time he came to my place is as follows: At the hospital they found a complete fracture of the upper third of the humerus, and of both bones of the fore arm, four broken ribs, and the nerves of the spine affecting the left leg were injured so that its use was impaired, causing him to have a dragging motion. Also the shock to the system affected the heart's action to some extent. They dressed the fractured upper third of the humerus with a wire splint that capped the shoulder on the outside of the upper arm and with a pasteboard splint on the inside of the upper arm and the forearm with pasteboard splints on the outside and the right-angle board splint to hold the arm in a right-angle position, which they left on for two weeks, when they removed the splints from the entire arm, redressing it with right-angle splint and the pasteboard splint on the outside of the arm. He remained in the hospital four weeks. About eleven weeks from the time of the accident they removed all the splints from the arm, but when they were removed the arm dropped limp to the side and he had no power in it. About five weeks after the splints had been removed he had more power and use of it than at any time before, since the accident; then he began to fail physically. He noticed the arm was shortening, the muscles of the arm were growing weaker and smaller and he was becoming more nervous and restless. His temperature subnormal, appetite poor, he was losing in weight and he felt he was becoming a physical wreck. He suffered all the time with his arm and of late it had been growing worse.

Feb. 17, 1911, he came to my home. His left arm was practically useless, hanging by his side, but if he held his elbow tight to his side with his right

* Read at a meeting of the Mercer County Medical Society.

hand he could work his fingers and hand a little, showing some power in the fore-arm. He suffered so with his arm that I persuaded him to let me examine it. On examining his arm I found the bones of the fore-arm were forming a bony union, but the fractured ends of the humerus had slipped past and overlapped about two and one-half to three inches, with non-union. There was a partial dislocation of the head of the humerus in and down, causing the shoulder to drop and the tissues in and around the seat of fracture were very sensitive and painful to the touch. I found the musculo-spiral nerve was affected (if not injured). I advised him to have an operation and have the bones of the humerus brought into position, correcting the deformity of the arm, relieving the musculo-spiral nerve and removing the danger of disease that was liable to result, and that if he did not there was danger of the bones becoming diseased and eventually an osteo-sarcoma forming. Dr. Sells of Aledo examined the arm, corroborated my diagnosis and advised the same; then I had Dr. Wallace of Aledo examine the arm and take an *x-ray* picture of the fracture of the humerus showing the position of the bones and the head of the humerus to further satisfy the patient, but they showed no disease of the bone and confirmed the diagnosis of the position of the bones.

Feb. 21, 1911, I went with him to Galesburg, Ill., and had Drs. Finley and Bradley examine the arm. They corroborated the diagnosis and advised an operation. Feb. 22, 1911, about eight months from the time of injury, Dr. Finley, after painting the surface of the arm with iodine, operated on the arm making an incision about five inches long over the seat of the fracture and down to the end of the bones laying them bare, finding the position of the ends of the bones as shown in the *x-ray*; but the ends showed a peculiar fracture resembling more of a twist and pulling apart. No bony union was found as the ends of the bones were overlapping outside the periosteum and rubbing on it. A little gristle had formed near the ends but the handle of a spatula soon removed it leaving them perfectly free. The lap was found to be about two and one-half inches and the ends of the bones were so ragged and somewhat softened it was decided to square off the ends down to the solid bone. After that was done it left so short a stub below the head of the humerus it was thought best to perform the Lane operation, bringing the ends of the bones together and fastening a Lane plate to them, putting two screws in each end of the plate to hold the ends of the bones firmly together and in position. I may state here that the antiseptic precautions of Lane had been followed out in placing the plate. Extension by hand was used to bring the bones in place and to correct the shoulder displacement. No disease of the bone or septic infection being found the deep structures were brought together tightly over the plate by catgut sutures, then the outer structures were closed up tightly by catgut sutures and the wound dressed with dry antiseptic dressing and left to heal by first intention. The arm was then dressed antiseptically and a plaster Paris cast was put on enveloping all the upper part of the chest like a jacket and enveloping the whole of the arm down to the wrist; the arm was placed out straight at right angle with the body and the cast allowed to set. The operation from the first incision until the last suture was taken lasted one hour and a quarter. The patient rallied nicely from the operation and at no time did his temperature run over 100.4. About the third day a window was cut through the cast over the wound so that it could be examined from day to day. He was kept flat on his back until about the end of the second week when no disturbance having arisen the patient was allowed to be raised up at about an angle of 45 degrees. He remained in the hospital four weeks, then the plaster Paris cast was removed and the arm was dressed with pasteboard splints around the shoulder and above the elbow so that they could be removed to dress the wound. The wound was still discharging serum and a bed sore or ulcer was found at the elbow about the size of a quarter. March 23 he left the hospital and returned to my home. The wound was still discharging a yellowish

serum darker at times and the ulcer at the elbow had a greenish center but no discharge. It was very sensitive and ached and pained a good bit. The elbow was swollen quite a little when he came home. I cleansed the wound with a calendula lotion, syringing it out twice a day, put on a sublimated gauze (absorbent) and replaced the splints over the dressing, continuing this treatment for several days. After trying different ointments and plaster without benefit I dressed it with sterate of zinc; to aid healthy granulation I removed the green center of the ulcer after I began to use the sterate of zinc but it would form as bad as ever. His appetite improved and his rest and sleep kept improving but the wound would not stop discharging nor would the ulcer heal. In the meantime Dr. Winbigler of Aledo saw the case and thought the sinus reached the bone. April 4th the wound appeared to open up from a new pocket and discharged about a half ounce of dark watery fluid but at no time has there been any odor about the discharge. I saw Dr. Finley April 4, and he advised the injection of an iodine solution into the open wound with a medicine dropper once a day, and to give the patient Bland's soft pills one three times a day. From the first injection of the iodine solution, the discharge grew less and in two or three days stopped altogether and the opening closed. There has been no sign of any discharge since. The tissues grew firmer, the swelling, soreness and aching continued to leave the upper arm, but the ulcer refused to heal. The sterate of zinc seemed to aggravate it. Antiphlogistine would remove the soreness and the swelling from the elbow but not heal the ulcer nor remove the green center. April 13 Dr. Finley advised balsam Peru as a local application and from the first application the ulcer commenced to clean and heal from the outside. The green center came out leaving a healthy surface and continued to heal over. I dressed it once a day. The upper wound having shown no further sign of irritation, the tissues became quite firm and the ulcer having healed over at the elbow another x-ray picture was made of the arm before leaving off the splints. Dr. Finley saw the case on April 27. The x-ray showed a good bony union forming and a slight springing out of the upper end of the plate. Dr. Finley advised removing all splints from the arm and to begin to manipulate it and to leave off the sling as soon as possible. He found the mobility of the shoulder and elbow joints all right but stiff from non-use. From that time forward his arm continued to improve in strength and in motion, the shoulder straightened up, his left leg came out all right and to see him stand up straight you would never know that he was at one time threatened with being a life long cripple. He now has as perfect an arm as any one with about an inch shortening. He had suffered at times with rheumatic pains and aches but no time has he shown the characteristic bone pain. As to internal treatment he has taken at times as indicated by his suffering such remedies as Ars., Bell, Bry., Arn., Nitric Acid and Lyc. The arm has been examined at different times since the patient came to my home by the following physicians: Drs. Sells, Wallace, Winbigler, Finley, Bradley and Bryant.

MORAL

Can we be too careful in our treatment of fractures to prevent life-long cripples? To what extent is it our duty to see that they follow out our instructions to prevent such deformities; and is it not our duty to our fellow beings when we see such cases as this one I have described above to persuade them to have the same corrected?

NEWS OF THE STATE

NEWS ITEMS

—Dr. C. H. Zoller was appointed County Physician for Nameoki.

—Dr. John A. Cavanaugh of Chicago is visiting the various nose and throat clinics of the East.

—Dr. W. E. Barton, a graduate of Barnes Medical College, has recently located at Wood River.

—Rev. Peter Kaenders of Venice has purchased the Lutheran Hospital at Granite City for \$55,000.

—Dr. R. W. Binney and daughter of Granite City spent the past month in Atlantic City. The doctor also attended the clinics at Johns Hopkins Hospital, Baltimore, and at Jefferson Medical College, Philadelphia.

—Dr. James A. Britton, chief physician of the Juvenile Home, Chicago, has resigned as a protest against the "Bartzenizing" of that institution. It seems that every physician in the employment of Cook County has either been "fired" bodily by Bartzen or forced to resign by intolerable interference.

PERSONAL

Dr. J. K. Egbert, Sycamore, has sailed for Europe.

Dr. Wallace Blanchard, Chicago, has returned from Europe.

Dr. and Mrs. Philip F. Schaffner have returned from an eight months' trip abroad.

Dr. L. M. Griffin has been appointed local surgeon at Polo for the Illinois Central System.

Dr. Elmer L. Kenyon of Chicago has sailed for Europe and will spend four months in study in Berlin.

Dr. Perry H. Wessel has succeeded Dr. August H. Arp, resigned, as health commissioner of Moline.

Dr. Emerson M. Brewer, Rantoul, has been appointed district physician of the Illinois Central System.

Dr. Edwin B. Tuteur, Chicago, has returned from Europe and will resume his practice in Suite 809, Columbus Memorial Building.

Drs. Ludvig Hektoen and Anton T. H. Holmboe received the honorary degree of doctor of medicine in connection with the centennial jubilee of the University of Christiania, September 8.

Dr. Sidney D. Wilgus, superintendent of the Elgin State Hospital, has been appointed superintendent of the Kankakee State Hospital, vice

Dr. Frank P. Norbury, appointed a member of the State Board of Administration to succeed Dr. James L. Greene, Springfield, who resigned to take charge of the Arkansas State Hospital at Little Rock.

REMOVALS

Dr. H. L. Smith has removed from Ivesdale to Chicago.

Dr. C. J. Buffington has removed from Litchfield to Decatur.

Dr. Martha Hayward has removed from Aurora to Boulder, Colo.

Dr. L. C. McCabe of Chicago has removed to Grant's Pass, Oregon.

Dr. F. H. Deane has removed from Hindesboro to Humboldt, Ill.

Dr. Harlan E. Mize of Danville, Ill., has removed to 5314 South Park Avenue, Chicago.

Dr. A. M. Calvert of Chicago has removed to 523 East Monroe Street, South Bend, Ind.

Dr. Charles H. Merritt of Alton has gone to Alaska to become camp physician for a large placer mining company.

Dr. H. R. Lemen of Alton will remove to San Francisco, where he will locate and continue to practice his profession.

NEW INCORPORATIONS

—Independent Western Star Order Hospital Association, Chicago; to furnish hospital service; incorporators. I. Shapiro, A. R. Fifer, Dr. S. Stol.

—The Gold Cross Medical Aid Association, Chicago; capital \$20,000; manufacturing drugs and medicines; incorporators, George A. Kilborn, George W. Kilborn, Horace M. Denholm.

PUBLIC HEALTH

—Dr. W. A. Evans, former health commissioner of Chicago, is conducting a public health column in the Chicago *Daily Tribune*, under the caption "How to Keep Well."

—The Medical Department of the Tulane University of Louisiana announces the inauguration of a department of tropical medicine and preventive medicine beginning Oct. 1, 1911, in charge of Prof. Creighton Wellman and staff. Laboratory courses and lectures will be given in the regular junior and senior classes and in addition graduate courses are offered, for which certificates will be issued, counting toward special degrees to be created as soon as the Tulane School of Tropical Medicine is in force.

—The exhibit of the Chicago Health Department at the Canadian National Health Exposition in Toronto was surrounded, as at the Child Welfare Exhibit in Chicago, by throngs of interested spectators aggregat-

ing 400,000 during the three weeks of the meeting. On both occasions the mechanical models devised by Dr. C. St. Clair Drake to demonstrate the necessity for ventilation and the mortality of young children were the subjects of the greatest interest. Earl Grey, the Governor General, obtained permission from the commissioner of health to reproduce the models for exhibition in Ottawa, Montreal and other cities of Canada.

—Early detection of tuberculosis in an employee is of great importance to himself, his coworkers and his employer.

The chance of ultimate “cure” or “arrest” as well as restoration of the working capacity gradually diminishes with the growth of the disease. The possibility of infecting others grows with the gradual transformation of a “closed” lesion into an “open” tuberculosis, with its swarm of tubercle bacilli in the sputum. The interests of employer are alike vitally affected by the gradual diminution of the productive capacity of a tuberculous employee.

These considerations call for a system of medical examination of employees in all working places, as a measure of great importance to all



Fig. 1.—Sears, Roebuck & Co.'s cottage.

concerned, the expense entailed in the maintenance of examinations being far outbalanced by the benefits derived.

As a result of the efforts made by the Chicago Tuberculosis Institute during the last two years to interest manufacturing concerns in the medical examination of their employees, several of the larger firms in this city have recently put into operation measures calculated to reduce the amount of tuberculosis among their employees.

Two years ago, the firm of Sears, Roebuck and Company built a six-bed cottage (Fig. 1) at the Edward Sanatorium, at Naperville, for the care of their tuberculous employees, and at the same time the firm instituted a system of examination of all employee who showed symptoms of the disease.

The firm of Montgomery, Ward and Company have just completed a model six-bed open air cottage for the care of their employees at the same institution; the cottage was opened for admission of patients on Monday, July 24, 1911 (Fig. 2).

At a recent meeting of the Executive Committee of the Chicago Tuberculosis Institute, Dr. Theodore B. Sachs presented a plan of systematic examination of employees for tuberculosis in various manufacturing establishments. The plan, approved by the Committee, was adopted by the International Harvester Company, as result of negotiations between Dr. Sachs, representing the Tuberculosis Institute, and Mr. G. A. Ranney, representing the Harvester Company. In brief, the plan is as follows:

Under the guidance of the Advisory Committee on Factories, appointed by the Tuberculosis Institute, and made up of Dr. Theodore B. Sachs, Dr. Henry B. Favill and Mr. Sherman C. Kingsley, the International Harvester Company will begin an investigation of prevalence of tuberculosis among their employees. A list of suspected cases will be prepared by a special tuberculosis nurse, who will have the cooperation of foreman in charge of factories of the Company. The list will include the following groups of cases:

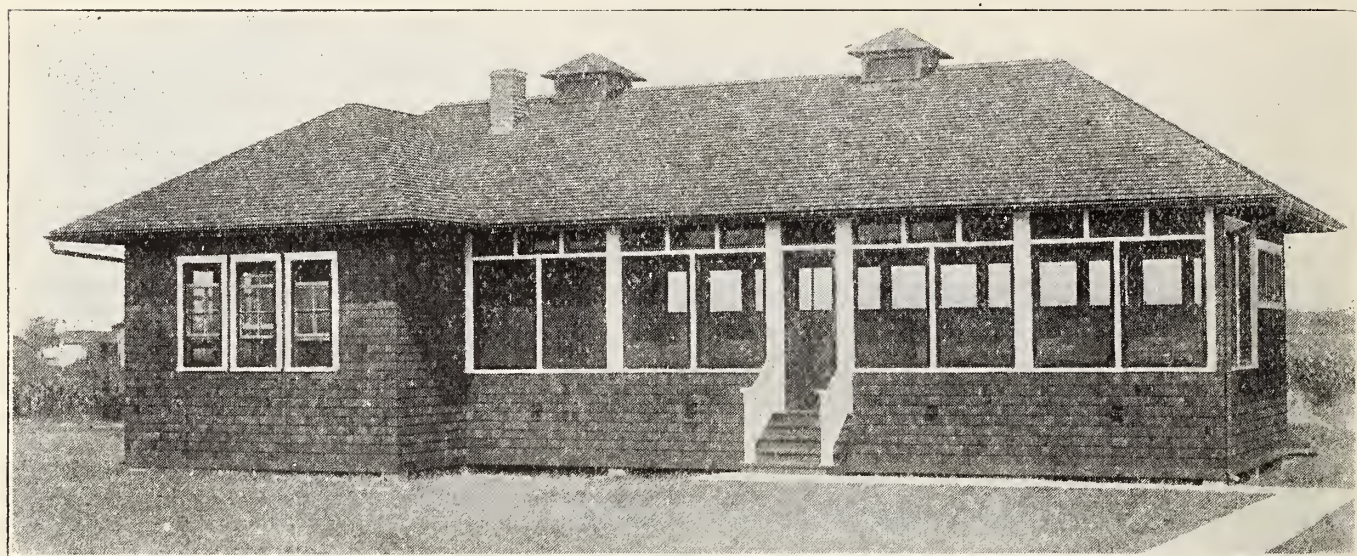


Fig. 2.—Montgomery Ward & Co.'s cottage.

First.—Employees in whom the diagnosis of tuberculosis was previously made.

Second.—Employees in whom poor general condition in connection with other suspicious symptoms suggests the presence of the disease.

Third.—All employees with histories of protracted cough and expectoration.

Fourth.—Employees in whose families a case of tuberculosis exists or death from disease occurred, etc.

When the list of cases is compiled, a special tuberculosis clinic will be inaugurated for the benefit of the employees of the Company.

Dr. James A. Britton of this city and Miss Jane Flanagan, a tuberculosis nurse recently on the staff of the Chicago Municipal Sanitarium, were placed by the International Harvester Company in charge of the proposed clinic, on recommendation of the Advisory Committee of the Tuberculosis Institute.

It is expected that this investigation, besides disclosing the degree of prevalence of tuberculosis among employees of the Company, will bring

eventually under consideration the necessity of systematic medical examination of all employees and applicants for positions in various manufacturing and commercial establishments in this city..

The directors of the Chicago Tuberculosis Institute announce that they are now ready, through their Advisory Committee on Factories, to act in an advisory capacity with other large employers of labor, to the end of having the plan more generally adopted.

TWENTY DAIRY SUGGESTIONS

The following suggestions to dairymen have been printed in practically indestructible form and are now being posted in the barns of all dairies which produce milk or milk products for the Chicago market:

Cows:

1. The herd should be tested with tuberculin twice each year. Remove all tuberculous cows promptly. But only recently tuberculin tested cows.

2. Don't excite dairy cows by fast driving or otherwise. Do not permit cows to stand in mud or wade in ponds or ditches.

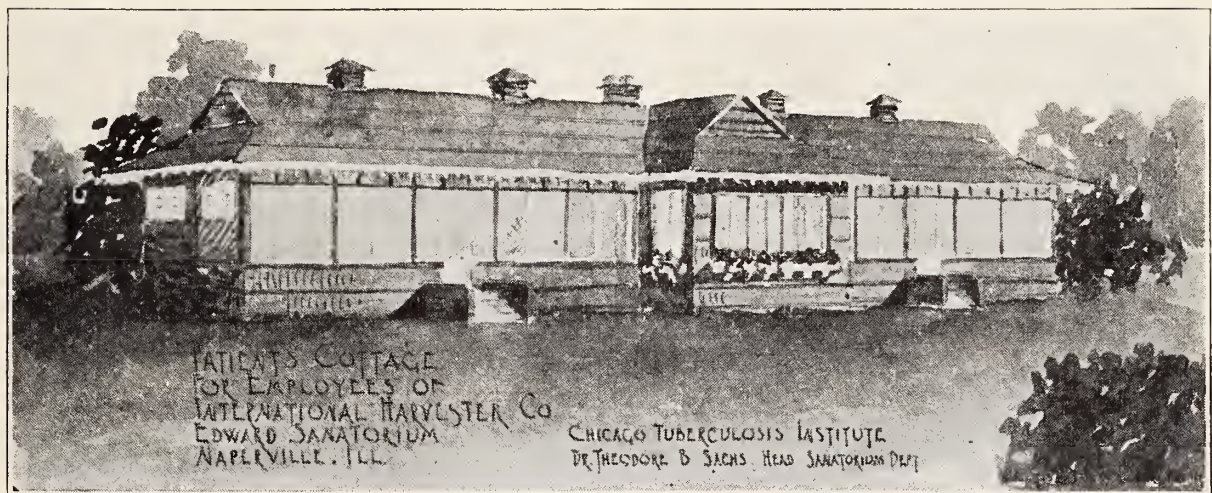


Fig. 3.—International Harvester Company's cottage.

3. Keep clean the entire body of the cow; clip short the udder hair.

4. Never give spoiled, decayed or soured food.

5. Provide plenty of fresh, pure water.

Stables:

6. Keep cows in stable completely separated from horses. Ceiling of stables must be tight if loft is kept above.

7. Stable should be dry, light (four square feet glass per cow); 500 cubic feet of air space per cow, well ventilated, without drafts on cows.

8. Floor must be tight; cement is best; walls and ceilings to be smooth, tight and clean, whitewashed twice a year.

9. Remove manure daily to field, or store under cover, 40 feet away from stables.

Milk houses:

10. Locate away from dust, odors, hogs, etc. Should be light, clean, well ventilated and well screened. Provide with cement cooling vat and cement floor.

11. Use utensils of metal only, with smooth seams; never rusty or rough. Milk utensils must be used only for milk.

12. Clean utensils in pure water only. Rinse with warm water, scrub inside and out with hot cleansing solution and rinse, sterilize with boiling water or with steam; then keep utensils in an inverted position in sun and pure air.

Milk and milk handling:

13. Do not raise any dust within half hour before milking time; hence, do not feed or bed cows within that time.

14. Wipe udder and surrounding parts with a clean, damp cloth immediately before milking.

15. Milkers must wear clean outer garments. Wash hands before milking. Milk with dry hands. Do not use tobacco.

16. Use a milk pail with a narrow top, preferably with a strainer or a hood.

17. Milk which is bloody, stringy, or into which hair or dirt has fallen should be discarded.

18. Take milk of each cow immediately to milk room. Strain at once through clean cotton flannel or cotton. *Then cool at once to 50° F. or lower.* Have thermometer in milk house for testing temperature of water.

19. Never mix morning and evening milk. Never allow milk to freeze.

20. Persons with typhoid or other contagious disease, or persons exposed to same, must keep away from cows, utensils and milk. Immediately notify this Department and your milkman of any contagious disease on your farm or in the neighborhood.

Attached to this poster is a form on which the Dairy Inspector records the date of each inspection and the point scored for the dairy. A perfect dairy will score 100 points. Any dairy falling below 65 points is considered unsafe, and if the conditions which are militating against the production of a safe milk are not remedied the supply from this farm is denied entry to the Chicago market.

Dairymen shipping milk or milk products to the Chicago market are required to keep these inspection records posted on their premises.

If the Chicago milk consumers would interest themselves more in learning the record of their milk producers there would be a more general endeavor among producers to improve their records. The Department of Health will furnish this information on request, stating your city milkman.—*From Bulletin Chicago Department of Health.*

MARRIAGES

JOHN W. ROST, M.D., to Miss Adela Peine, both of Minier, Ill., June 14.

FREDERICK AMON BERRY, M.D., to Miss Amy Gust, both of Chicago, July 26.

KATE ARMSTRONG, M.D., Kewanee, Ill., and Leroy Ewan of Cuba, Ill., August 17.

CHARLES FORD, M.D., to Miss Olive Green, both of Waggoner, Ill., at St. Louis recently.

JAMES N. SHEARL, M.D., Middletown, Ill., to Miss Bertha M. Nicholson of Tower Hill, Ill., August 2.

LEONARD LUCIUS LAMB, M.D., Chatsworth, Ill., to Miss Gertrude Snevely of Monon, Ind., August 30.

DEATHS

JACOB BIEGER, M.D., Chicago Homeopathic Medical College, 1899, died at his home in Forest Park, Ill., August 6, from aortic aneurysm, aged 42.

JOHN W. PRIMM, M.D., Hahnemann Medical College, Chicago, 1878; for many years a practitioner of Woodstock, Ill., died at his home in Pasadena, Cal., July 26, aged 60.

RALPH N. GORDON, M.D., University of Michigan, Homeopathic College, Ann Arbor, Mich., 1897; for thirty-five years a practitioner of Arlington, Ill., died at his home in Seattle, Wash., August 7, aged 69.

JOHN DUKE WALLER, M.D., Rush Medical College, 1883; a member of the American Medical Association; for five years assistant physician in the Jacksonville (Ill.) State Hospital; died at his home in Oak Park, August 22, from uremia, aged 59.

GEORGE JOHN SCHALLER, M.D., Rush Medical College, 1881; a member of the American Medical Association, died at his home in Chicago, August 10, from the effects of a gunshot wound of the head, believed to have been self inflicted with suicidal intent, while despondent, aged 51.

EDWARD O. GRATTON, M.D., (years of practice, Illinois, 1878), hospital steward and acting assistant surgeon U. S. Army, assistant to the Seventy-Second Illinois Volunteer Infantry during the Civil War; a member of the first board of trade of Chicago, died at his home in Harvard, Ill., August 18, aged 84.

WALTER OWEN RYAN, M.D., Washington University, St. Louis, 1882; a member of the American Medical Association and President of the Sangamon County (Ill.) Medical Society in 1909; a prominent practitioner of Springfield, and attending physician to St. John's Hospital, but for the last year a resident of Los Angeles, Cal., shot and killed his wife and himself at his home in Los Angeles, September 1, while mentally unbalanced.

OBITUARY

Dr. Walter Owen Ryan of Springfield, who had recently gone to California, on the first of September, 1911, while in a condition of paranoia, shot Mrs. Ryan and then committed suicide. Dr. Charles Ryan, father

of Dr. Walter Owen Ryan, began practicing medicine in Springfield in 1853, and his son began practicing in Springfield about 1879, two years before he came of age; he afterward graduated at the St. Louis Medical College and continued in practice until 1910. Father and son practiced in the one community for nearly sixty years.

Probably no person in the history of Springfield had ever as extensive a practice as Dr. Walter Ryan during about ten years of his life. His practice was very lucrative, and Dr. Ryan was saving, even penurious, regarding money matters. His estate is said to amount to something like \$600,000, one of the largest estates ever accumulated by a medical man in Illinois.

The bodies of Dr. Ryan and his wife were brought to Springfield and interred in Oak Ridge Cemetery on Wednesday, September 6. A very large congregation of people attended the funeral service.

Dr. Ryan's age was about 50 years. His wife was the daughter of R. W. Diller, one of the oldest settlers in Springfield, and the druggist in whose store Mr. Lincoln made his headquarters.

DR. J. H. DICKERSON of Taylorville died in that city September 15 after a long and painful illness. His remains were cremated in St. Louis and will probably be interred in Oak Ridge, Springfield, later.

Dr. Dickerson was a man of powerful frame and constitution which were very slow to succumb to the ravages of tuberculosis. He had practiced for more than forty years in Christian County, but had spent five years of residence and practice at Los Angeles, Cal. His age was 63 years.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED AT THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER

VOL. XX SPRINGFIELD, ILL., NOVEMBER, 1911 No. 5

ORIGINAL ARTICLES

OBSERVATIONS ON RABIES *

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I assume that we are all, whatever our view-point, familiar with the phenomenon known as a "rabies scare." This is not as a rule associated with any unusual prevalence of rabies in the vicinity, but indicates rather an unusual amount of attention paid by the newspapers at intervals of months or years to a condition which we unfortunately have with us more or less all the time in most of our eastern cities. These periodic outbursts are frequently precipitated by the exposure of some prominent person, the death of a human being with all its harrowing details, or some tragic occurrence on the streets which makes good headline material. For several days or possibly weeks the minutest attention is given to all cases of dog-bite, mad dogs and cats, pound masters' reports, articles by health officials, replies by cranks, and editorial comment. Then suddenly the whole matter is dropped, and so far as the public is aware, rabies has been banished from the city. As a general thing there has been no great increase of rabies during the agitation, and its subsidence is not accompanied with any marked diminution of the disease. These scares, however, serve a useful purpose, and are probably more effective in drawing public attention to the disease than would be a continuous but commonplace recital of statistical matter. One thing which is always emphasized during these flurries is the great diversity of opinion concerning the disease rabies, or hydrophobia, for as is well known there is no person however unassuming and modest in general affairs who can reach maturity without having convictions in medical matters. I count it, therefore, a privilege that I was enabled to approach the study of this disease with as little bias or prejudice as any one. The subject was not touched on during my medical course as far as I can remember, but I had probably read

* Read by invitation before the Chicago Medical Society, Oct. 4, 1911.

with half attention some text-book article on the subject. When I met a dog on the street I patted him on the head without ever noticing whether he was muzzled or not, and never thought of rabies in connection with him. The periodical rabies scares made no more impression on me than did the railway accidents and murders. One day some five years ago, a stray dog wandered into the grounds of the Hygienic Laboratory, and was discovered hidden away in a cask, which lay on its side. When disturbed it seemed weak and could not stand up, and its lower jaw hung down. When offered food and water it would attempt to get some into its mouth but was unable to swallow any. The dog was plainly very sick and somebody suggested that it might be suffering from dumb rabies. The animal was kept in a stall for a day or two when it died after becoming completely paralyzed and much emaciated.

About this time there was much in the medical literature about the discovery by the Italian Negri of certain appearances, since known as Negri bodies, in the brain of animals which had died from rabies. We therefore examined the brain of our dog and found the bodies as described. To make sure, however, we inoculated some rabbits with small amounts of the brain matter. As soon as these rabbits had come out of the ether, they resumed their interrupted meal of cabbage in apparent unconcern. They remained perfectly well so far as anyone could observe for about two weeks. Then one after another they began to be sick. Their general appearance became rather sad and unkempt. One ear would hang down while the other was erect, the eyes had a staring look, the movements of the head and limbs became uncertain and wavering. The next day the rabbits lay on their side, the hind legs motionless, the front ones still scraping a little arc in the sawdust, the head drawn sharply backward. The paralysis advanced to the front legs and finally attacking the respiratory center the animals died. The brains were examined and Negri bodies found as in the dog. We began to be interested in rabies. The annual reports of the Bureau of Animal Industry had shown the prevalence of the disease in Washington for years, and I have only spoken of my introduction to the disease to illustrate how one having more reason to be interested in the subject, from a scientific standpoint at least, than has the general public, could live for some time in a city where rabies was not at all rare without having a realizing sense of the truth concerning its prevalence.

This case might also be used as a text to illustrate the grounds on which Science bases its recognition of rabies as a distinct disease entity. Given, a sick dog with very peculiar symptoms and microscopic appearances in the brain after death which are not found except after death from disease showing the same train of symptoms. Then an infinitesimal portion of the brain of the dog is inoculated into the brain of another animal — any mammal will do. Then a period of some two weeks during which no symptoms are observable — this being an important link in the chain of evidence, since it rules out the possibility of any brain injury, or of the action of a poison generated in the dog as the result of fright, fatigue, starvation, bad water, or other cause to which the symptoms of

madness are ascribed by those persons who are unwilling to admit that there is such a communicable disease as rabies. Then the sickening of the inoculated animals with symptoms similar to those of the dog, their death, and the finding of identical appearances in the brain. Add to this the fact that the same conditions can be reproduced by serial inoculation for endless generations in the laboratory and there is no conclusion possible but that this disease is a communicable one and is due to some agency which has the property of reproducing itself, in other words, is a living organism.

Shortly after this occurrence the director of the laboratory instructed me to make a study of the literature of rabies, and to do such preliminary experimental work as would be necessary for the production of the anti-rabic virus as used in the Pasteur treatment.

In reviewing the literature I fortunately started with present day articles and worked backwards. If I had begun at the other end and done a thorough job, I would probably still be around the period of the Revolutionary War, for the literature early reached enormous proportions.

One thing becomes evident from a study of the writings on rabies, which is that we must either face the problem of rabies in animals and man, or the much more serious problem of widespread imbecility in medical and scientific circles. I chose the easier alternative. The medical profession both in its human and veterinary applications, is committed to a belief in the existence of a disease which it calls rabies, and so is that large class of laboratory workers which, though composed largely of doctors, are primarily students of pure and so to speak unapplied science; and expressions of doubt no longer come from such sources.

How then can we account for the skepticism, or outspoken antagonism which still prevails among certain people who, although not composing a very large proportion of the population, are so insistent in their views and so antagonistic to the use of logical methods in coping with this disease as to constitute an obstacle which has to be reckoned with? I can illustrate one way of accounting for it by reciting a case.

A farmer had several cattle which were bitten by a strangely acting dog. Some three weeks later one of these cows came down with symptoms which a veterinarian said were those of rabies, and died. The farmer faced the loss of his remaining animals, but a neighbor came to his aid. This neighbor could not read or write, but he had convictions, one of which was that this talk of rabies was a myth. He told me later that he didn't "take no stock in it." He bought one bitten cow from the farmer and chuckled over his bargain, and expressed a wish that he could buy all the cows so exposed in the country, at the same price. Thirty-three days later the cow became sick. True to his convictions, the purchaser, taking no stock in rabies, fixed up some cow medicine and drenched the cow. His hands had some ugly fresh wounds on them and the copious saliva was well rubbed in. The next day the cow was busy demolishing the stanchions of the stable, and tearing her flesh with her teeth. Our friend told me that he shot her just in time to save the side of the barn, she "tuk on so." He spent much of the ensuing night in

thought and the next morning took an early train for Washington and the Pasteur treatment. Disbelief in rabies can be set down in this case to illiteracy and ignorance. But how about the books which tell you all about dogs, written as a rule by an enthusiastic fancier but minus the veterinary degree, which state in the chapter on dog diseases that in an experience of thirty-five years the author has never seen a case of rabies? And how about the societies for the protection and shelter of dumb animals which publish accounts of thousands of dogs cared for with no cases of rabies among them? There are several possible explanations of the conflict between these views and the scientific view. Possibly some of these people live in one of those localities now rare in the eastern part of the United States where rabies has really been unknown since the memory of man. Some of them prefer another name for this disease to the one now current in scientific circles, others are positively biased, and read and think of but one side of the question, being impervious to argument or demonstration. I have treated a number of this class. They always explain that they take the treatment to allay the fears of solicitous but misguided friends. But not to go too far into a study which is really one of psychology, let us simply remember that one positive observation competently made offsets a multitude of negative ones. If you get up in the middle of the night to see Halley's comet and see it, you do not doubt your senses if you can find a thousand people who lay abed and did not see it. The equipment which the critics bring to the controversy is found on analysis to consist largely of sentiment. Sentiment is a good thing, an indispensable factor in civilized life, but it should be guided by reason and experience. Sentiment is also the stimulus which prompts those interested in the eradication of rabies, but reason and experience have shown them that nothing is to be gained by ignoring facts.

Scientific investigation of rabies began centuries ago, by the crude methods then available, but the experimental methods which have made an intimate study possible were introduced by Pasteur in the 1880's. I conceive it to be outside of the scope of this talk to review the results of this research in any detail. Suffice it to say that all the factors which have been so diligently worked out in the past few years with regard to infantile paralysis had previously been established with regard to rabies, which is indeed from the standpoint of the laboratory worker one of the most definite and workable of diseases.

There are several points in connection with recent work in rabies, which may merit passing attention. First, the Negri bodies. I know of no discovery made in the laboratory which has received such prompt and universal confirmation, that is, as far as their being distinctive of rabies is concerned. Their real significance, whether as the cause or the result of the disease, has, to my mind, not been determined. Eminent protozoologists name and classify them among the protozoa, in which case they can hardly be anything but the long-sought germs of hydrophobia. Equally eminent pathologists see in them only the products of reaction between the nerve cells and the undiscovered microorganisms. But all unite in finding them specific for rabies. Their practical application has

been in the early determination of the presence or absence of rabies in an animal which has been suspected of having this disease. Their value in this way is about equivalent to the bacteriologic examination of throats of diphtheria suspects, i. e., given a suitable specimen, between 95 and 100 per cent. It must be remembered, however, that their absence does not preclude the possibility of rabies and that the symptoms exhibited by the biting animal must always be considered.

The Negri bodies have been of great help to the laboratory worker in shortening his labors, and in saving much material in the way of experimental animals.

Then there is the question of antirabic serum, produced by the prolonged inoculation of animals (horses or sheep) with a modified rabies virus. This serum has strong powers of destroying rabies virus in a test-tube, but experimentally it has been disappointing both as a prophylactic and curative agent. It is employed at several institutions to modify the fixed virus of rabies before this is injected for immunizing purposes; the claim being made that in this way an earlier and more pronounced immunity is conferred. It has not been used alone for immunizing purposes. Its use in a dried condition as an application to rabies-infected wounds has been suggested. Finally the antirabic property of the serum of persons who have received preventive inoculations may be of use in estimating the degree of immunity conferred, although we must not be hasty in assuming this. The agglutination titer in typhoid fever cannot be taken as an index of immunity.

As a matter of fact there are only two things of importance for mankind to know about any disease; first, that it really exists, and second, how to get rid of it. All else is matter for a restricted number of persons called pathologists to busy themselves with. But without the pathologist we cannot learn these two simple things. They have answered these questions long ago with regard to the disease rabies, and it is plainly up to the public to apply the knowledge at hand. Rabies exists more or less throughout all the eastern part of the United States. The way to get rid of it is to prevent dogs from biting; for the misfortune of being the perpetuator of rabies is laid on our good friend, the dog. Does this mean that we have got to put away our good friend, banish him from the society of mankind? No. I wish to say to the dog-lover particularly, that if the measures universally advocated by public health officials for the eradication of rabies were really enforced, the result would be more to the advantage of the dog than of any other animal, including man. The result would be an improvement in the condition of dogs individually and of the breed in general. It is also to be emphasized that these measures can be dispensed with once the disease is eradicated. Dogs are not now muzzled in England or in Berlin, for instance, because rabies having been banished, there is no longer need for it. That the dog is responsible for the perpetuation of rabies is shown by the following data: Measures directed against the disease in dogs alone are sufficient to eradicate the disease completely, as has been demonstrated in England. The dog, because of his social habits, his tendency to wander and to bite, is

especially adapted more than any other domestic to transmit a disease which is carried in the saliva and must be introduced through wounds. Over 80 per cent. of all animals reported as dying of rabies are dogs, and over 90 per cent. of all persons exposed to rabies by bites are bitten by dogs. What then shall we do with our dogs? Simply submit them to a degree of control which would not be regarded by anyone as either cruel or unreasonable in the case of any other animal. First we have an immense population of wandering, homeless, ownerless, starving dogs. They are not amenable to control. If they excite our pity they should rather excite our self-condemnation and remorse that we ever allowed them to exist. The only practical thing to do with this class is to put them to a painless death, thereby saving them much suffering, and removing a constant menace to other animals and to man. There are societies which maintain refuges for such animals. If they can square it with their consciences to expend the necessary money in this way when there are thousands of little children in as bad or worse case than the dogs, very well, but they must give absolute assurance that their charges are so kept as to be no menace.

Now for the dogs which are so fortunate as to have homes and masters. As everyone knows they are ordinarily allowed such liberty that if there is a rabid animal in the vicinity, ample opportunity for infection is offered. Even the man who tells you how carefully he keeps his valuable dog has to go around the corner once in a while and pull his dog out of a fight.

The object of antirabies operations is not to do away with dogs but to keep them from biting, and by way of corollary, from being bitten. Since this cannot be carried out in the case of ownerless dogs, there is no alternative but to destroy them, but in the case of owned dogs we may confine them to the premises of the owner or make sure that they are prevented from biting when at large by wearing an efficient muzzle. I might mention in passing the scheme of a German sanitarian who proposed to file down the teeth of all dogs so that they could not inflict a wound. This gentleman was in the same class with the philosopher who tried to extract sunbeams from cucumbers. Many dog-owners, however, resent any such infringement of the liberties of their animals such as implied by restraint on their own premises or muzzling when at large. These people display a regrettable lack of intelligent appreciation of their own interests, as well as a culpable indifference to the rights of others.

Does the prevalence of rabies in this country warrant our going to all this trouble in eradicating it? I believe that it does even from the standpoint of the agriculturist, and leaving the loss of human life out of consideration, for the loss of valuable live-stock in some sections reaches serious proportions, and unfortunately the disease appears to be on the increase wherever it has gained a foot-hold. The loss of valuable dogs also is no small feature when we consider that at least two large hunt clubs have been obliged to destroy their entire packs on account of rabies infection. We are unable in the present state of vital statistics to ascertain with exactness just how many cases of rabies do occur throughout

the country, but sufficient cases come to official report to convince us that the disease is widespread. Dr. Kerr and myself made an attempt to ascertain how much rabies there had been during the year 1908. We wrote to health officers all over the United States and obtained evidence of the prevalence of rabies in the lower animals in thirty-nine states or territories, and distributed throughout 534 separate localities. We also learned of 111 deaths during that year in human beings in thirty states or territories. Anyone conversant with this method of collecting data will recognize that these figures must necessarily be below the actual truth. Combining our findings with previous and subsequent reports, we find that there are only eight states or territories in which there is no record of the prevalence of rabies, and that these are mostly in the sparsely inhabited Rocky Mountain and Pacific slope regions.

At least 111 deaths in man; how many more occurred but were unrecognized or failed to be reported we can only conjecture. This is a small number when we consider the ravages of tuberculosis, typhoid fever, pneumonia and many other diseases, but those were not ordinary deaths; the suffering in the majority of cases of hydrophobia is something more than ordinary. When we consider that about 40 per cent. of these deaths were in children under 10 years old, and that they were preventable by means which we know but do not apply, the continued existence of rabies becomes a reproach to our intelligence and efficiency.

In England and Scandinavia and certain isolated European cities rabies once prevalent has been eliminated. The methods employed were the same which health officers in this country advocate. Why cannot we achieve the same happy result and rid ourselves once and for all of this disease and the stigma of inefficiency as well as the losses which it entails?

For geographical reasons we have a harder problem on our hands, but my own opinion is that peculiarities of our American citizenship have been a great obstacle. We have more people who can read, but not too many who have learned what to read. We have a greater demand for personal liberty, but have not advanced to a proper understanding of civic liberty. When the people of the United States determine to get rid of rabies it will be done, and not before; laws, statutes, ordinances and regulations to the contrary notwithstanding. The most profitable line of effort on the part of the health officials would seem to me therefore to be in the direction of popular education. The average American is not slow to put a measure into execution when he is once convinced that it is to his own interest.

What then should the public know with reference to rabies in order that they may render that assistance to the health officials without which no good of a complete or lasting character can be accomplished? They should recognize the following facts:

1. That rabies exists and is not an uncommon disease in animals and that it is perpetuated by dogs.

2. That it means death to the dog, and to a certain percentage of persons who are exposed, as well as much anxiety, expense and discomfort to those who are so fortunate as to escape the disease.

3. That it lies in their hands to eradicate the disease and that the way to do this is to keep dogs from biting, which necessitates the removal of the ownerless dog and the proper control of owned dogs; that the proper control of dogs does not mean temporary confinement to the premises only when the dog-catcher is reported in the neighborhood, and that an efficient muzzle is not a limp piece of leather depending from the dog's collar.

4. That the dog is in almost all cases not at all a necessity but a luxury, and that the license fee which they pay in no sense gives them the right to allow their animals to run at liberty when this means a menace to other animals and to people. I do believe however that the payment of such a fee or tax does entitle the owner to some protection for his animal, that the license can be regarded, in other words, as in a sense a guarantee that dogs properly muzzled should be able to run at large for their necessary exercise, in safety from attack by dogs not so equipped.

Now since it is probable that we shall not succeed in eradicating rabies for some few weeks, months or possibly years, it is well to know what is the next best thing to do about it. Those who have to do with dogs should bear in mind if it becomes sick that it may possibly be coming down with rabies, especially if opportunity for infection has occurred. A change in disposition, unusual affection and desire to be petted or the opposite, surliness and a desire to be alone, and extreme restlessness should excite suspicion, and the animal should be confined in a safe place for a few days of observation. A very common source of infection is by exposure to saliva while attempting to remove a supposed bone from the throat of a dog which is in reality suffering from paralytic rabies. Better let the veterinarian remove the bones; it is dangerous, but his business. When a person has been bitten by a dog there is a tendency on the part of many people to kill the animal immediately. This is bad practice for several reasons: The dog may have had nothing the matter with it, or may have been suffering from some other disease than rabies, as a few days of observation would have shown. Or it may have been in the early stages of rabies when the characteristic Negri bodies are sometimes insufficiently developed to make an early diagnosis possible. Of course when the dog is furious and manifestly dangerous to approach, it must be killed, but even then preferably after a veterinarian has had an opportunity to see it. When a dog has died or been killed for suspected rabies the head of the animal should be sent as expeditiously as possible to the laboratory for diagnosis, and in the warm months it should be packed in ice.

Wounds received from any animal in which rabies is suspected should be cauterized as soon as possible, preferably with nitric acid, and a physician consulted as to the advisability of taking the Pasteur treatment. This treatment is the *makeshift* on which we are obliged to fall back in avoiding this truly terrible disease. I call it a makeshift because it is an attempt (usually successful to be sure) to ward off the evil effects of an infection which should never have occurred. The evidence of the efficacy of this treatment has heretofore been statistical and by inference from animal experiments. We can now add to this the fact that the blood serum of persons and animals so immunized contains specific anti-

bodies, which are capable of destroying the virus in a test-tube. But this treatment is expensive, time-consuming, somewhat painful, and not absolutely certain, since a small percentage (about 0.5 per cent.) of treated persons die of hydrophobia despite treatment.

In concluding my remarks, I wish to advert to the wonderful moral effect which a successful antirabies campaign in the city of Chicago would have on the country at large, and to enlist the sympathies of physicians and laymen alike in behalf of the efforts now made and to be made in this direction by your health officials. If you are in doubt, I believe that your Commissioner could arrange to show you some convincing concrete evidence at his laboratories. Once convinced of the existence of rabies you have only to weigh in one scale the loss of animal and human life, and all the suffering and monetary loss, and in the other scale — no, not the dog, but the dog's greatest enemy, rabies.

DISCUSSION

President Patton: This inspiring paper, which I am sure is of especial interest to all of us at this time, because of the somewhat unusual prevalence of rabies in this part of the country, is now open for discussion. Dr. George B. Young, of the Board of Health will lead the discussion.

Dr. George B. Young: I have very little to say in the way of discussion of the paper. I thought perhaps it might be well to make some explanation of the relation that the Health Department bears at the present time to the rabies situation in Chicago.

I shall preface my remarks by saying that this subject is particularly interesting to me because at the present time I am Health Commissioner of the City of Chicago, and, second, because I have been owned by two or three dogs all of my life (in my family, you will notice, the ownership has always been reversed). As a dog lover, I long ago became interested in the subject of rabies. It was not long until I became convinced of the fact that there was such a disease as rabies and I took the trouble to inform myself of the appearance of the dogs suffering from different types of the disease and in the different stages of each. That is a simple thing to do and I think it would be a good thing if all people interested in dogs would inform themselves, at least in a general way, of the manifestations of the disease. I have frequently taken the trouble to shut my dogs up for a couple of days and watch them closely. Every dog lover owes it to himself, to his dogs and to his home to take such steps until he is able to say, with some pretention to authority, what causes the symptoms that appear in the dog when he acts strangely. It does no harm, in any event, to confine them for a while and may save a great deal of trouble.

As to the work of the Health Department in Chicago: our work is in the nature of making diagnoses for the police department or others who send material from dogs suspected of rabies. Unfortunately it too frequently happens that the marksman (be he policeman or neighbor) who destroys the dog expends his energies, either with club or gun, upon the head of the dog and when we get such specimens it is difficult indeed to prepare proper sections. We make these diagnoses for the Police Department and Dr. Tonney will have something to say about the methods we follow and the results we have obtained during the present season.

Another connection the department has with the matter is supplying a certain number of treatments to people who are unable to supply them for themselves. We have an arrangement with the Public Health and Marine-Hospital Service by which they send us (we wiring for it as needed) the necessary amount of vaccine for a subject suspected of needing the treatment. We only get it for those who are really unable to pay for it—those whose lives would be sacrificed if we did not provide the treatment. It does not necessarily follow that because a person is

bitten by a dog, even if he be rabid he will develop hydrophobia any more than that every person having a wound soiled with material probably containing the bacilli will have tetanus.

There has been considerable misapprehension as to what the Department will do and I would like to explain that. At the Iroquois Memorial Hospital we make an examination of those who present themselves for treatment, getting a record of the case, a history of the animal and a history of the nature of the wound. Then we wire for treatment. While we are waiting for the vaccines we have an investigation made to ascertain whether or not the person applying is entitled to the treatment. It is a curious thing, but we find that people want to save their lives and while they are very much disturbed over the possible loss of their lives, they are about equally solicitous in the care of their pocket books; so we make an investigation. If we find the person is able to pay we then take such steps as we can, by personal visitation and by letter, to urge that individual, or (in case of children) the parents of the patient to go to an institution making the treatment a matter of business and try to impress upon them the very great importance of instituting treatment at once.

The Public Health and Marine-Hospital Service furnishes treatments to State Boards of Health in a number of states and to the large cities. We have not the facilities in our laboratory, nor the room or time to prepare the treatment for ourselves. Some cities can do so. New York does, and so do others that have the facilities, but the Government furnishes it to Chicago.

In regard to the police force: A great interest in this subject has been stirred up among the members of the force. Of course the great difficulty is that many of the force have had no instruction which would enable them to say when a dog is acting strangely that it has rabies. I have seen dogs with epilepsy, especially of the circulatory type where they run around and around in a circle, killed as rabid. It is very possible for a dog who has come a long distance or has been chased by boys and has had no water, to be killed for rabies. It seems to me, therefore, that it would be very desirable to provide means for instructing the members of the police force as to the things to look for in dogs suspected of having rabies.

Of course we cannot give this treatment gratuitously to members of the force. In case a member of the force is bitten, we make the diagnosis, buying from some firm the necessary material for treatment and then give it at the Iroquois Memorial Hospital. A policeman receiving an injury which even presumably endangers his life is quite as much entitled to protection from the city as the fireman who falls into a burning building with a ton of brick on him and has to be dug out at the city's expense. It is just as much in the line of duty for the police to protect from rabid dogs as from criminal men. Therefore, we take the position that it is the business of the Department to provide the necessary medical attention, merely charging for the material.

I merely wished to make this explanation of the work of the Department. There are others here who can give the details of their work.

Dr. A. Lagorio: About twenty-two years ago, when I returned from Europe, I established a Pasteur Institute in this city for the prevention of rabies. At that time I appeared before the medical staff of a local hospital requesting the use of the hospital, they to allow me to plant my laboratory and treat, free of charge, the poor of the city, county and state. The medical staff were willing, and happily consented. But they said that before I could go to work I should have to obtain the permit and consent of a local political body which had the hospital under control.

In the meantime some cranks in the city got hold of the plan and started to fight against the establishment of a Pasteur Institute in the hospital because, they alleged, there was no such thing as rabies, it being a disease of imagination and fright and the establishment of a Pasteur Institute would, therefore, only serve to make people die of fright and overdrawn imagination; that the treatment was useless, there being no such disease as rabies, and that Pasteur himself

had made a discovery that was of no use whatsoever. The editor of a local medical journal at that time coincided with these opinions and had the pleasure of saying that Dr. Lagorio was a fanatic and a fit person to be confined in an insane asylum.

Naturally, in the face of all this, the political body refused absolutely the privilege of establishing the institute in the hospital. Notwithstanding that, the institute was started. People came, the medical profession became educated and awoke to the actual existence of rabies. The poor of this great city, the county and the state all came and received what they needed without question or investigation. Throughout all these years the people of the city, state and county have received whatever treatment has been necessary in each individual case.

Six years ago, in 1905, the legislature at Springfield ruled that the State was under obligations to take care of its indigent poor who were bitten by rabid dogs and passed a law by which every one in the state presenting to the Institute a certificate stating that they had been bitten by a rabid dog and were poor, could come and be treated. This is the law at the present time.

Even now I have eight patients from the city who are paupers, from whom I shall never receive a cent and for whom the city or state will not be asked to pay a cent, but they have been welcome and I treat them gladly.

I feel very grateful for the consideration I have received from the medical profession, those in the Health Department of the state and city and also the Police Department.

There is no question but that rabies does exist. To go over the ground so ably covered by Dr. Stimson's paper would be but a waste of time. Occasionally in the past, before the institute was started, I heard it said here and there that there was no such disease as rabies, that all that was necessary was to apply a madstone to the injury, and many people did go to some old woman who had this stone and waited for the cure, many yet resort to it in the South, but learn of their mistake too late.

During the past year rabies has been very prevalent in the city. Since January I have treated 135 cases of persons bitten in this city by rabid dogs and cats. These were recognized rabid not only by their symptoms, but by the microscopical presence of the Negri bodies in the brain, and by inoculation tests made on animals.

In March a rabid dog appeared on the West Side (I believe it was in Oak Park). It bit several dogs and several persons. Three weeks afterward there was a little epidemic in Austin. Several people and several dogs were bitten. It spread farther west to Maywood and ended in River Forest. Happily the Police Department, advised by their Health Departments, took measures for suppressing the dogs and immunizing the persons bitten so we had no cases of rabies among those. However, I believe one child, whose parents neglected proper precautions, did die in Oak Park.

Another epidemic occurred on the North Shore and is still in progress. Several dogs in Rogers Park were bitten. From there it went to Evanston, from which point we have received several brains for examination and have found signs of rabies. Then it went farther north, into Wilmette and Winnetka and finally to Waukegan.

Now why should this happen? It is not the fault of the Police or Health Departments and it is not the fault of the medical profession. It is the fault of the public itself. I have at present three patients in one family whom I am treating. The members of this family are well educated people and they were all infected by their own rabid dog and bitten in their own home. One would think that ordinary intelligence would teach them to segregate the dog when it is acting strangely. This morning a woman of good education and culture called upon me for treatment, having been infected by her dog suffering from dumb rabies. When I inquired into the circumstances she said that she knew her dog had been bitten about eighteen days before by another dog. I asked "why did you not segregate your dog for a time?" "Well, I did not know the dog was rabid," she said. That is the usual answer to the question, which I

almost always ask. Therefore it shows considerable ignorance of the symptomatology of rabies and it becomes our duty to educate the public about it.

As I see many police officers here and some of the general public possibly a few words of my own experience would not be amiss by way of a little instruction. First of all: when a person is bitten by a dog it should be the duty of those interested, not to kill the dog immediately, as is so often done. It should be captured and quarantined for two weeks. If symptoms are going to develop they will develop within that time. Then you will know. If he is killed instantly we can make a microscopical examination of the brain, but if Negri bodies are not found we can make the inoculation test in guinea pigs or rabbits, but this is a long and dangerous method, because a most valuable time is lost for the safety of the patient.

I call to mind now a case in a neighboring state where seven children were bitten by a dog showing every clinical symptom of rabies, but notwithstanding this, the parents wanted to know definitely from laboratory examination. The Negri bodies were not yet known at that time, so the carcass was sent to the university for examination. In the laboratory they took out the brain, as usual, and inoculated two rabbits. On the nineteenth day after the accident, one of the bitten children developed symptoms of rabies and died. They found out too late that the dog was rabid, and then rushed the other children to the institute here. Three days later I got a telegram from the university saying that the animal was unquestionably rabid, but it came too late to be of any assistance to that child.

As I say, we must look for the Negri bodies in the brain of the animal—but I will not enter into any general discussion of them as the limited time does not permit to-night. I have here, however, four lantern slides that I should like to show.

(Four lantern slides shown, showing Negri bodies in the brain of a rabid dog, of a cow, a child and an adult.)

There are many erroneous ideas regarding rabid dogs. Many believe that because they have received a slight bite which has healed quickly by first intention, that there is no infection and consequently no danger. Do not be misled. Sometimes the simplest possible wound is infected with rabies, yet it shows no local reaction and heals at once.

I call to mind the case on the west side where a man, while attending to his business in his store, a beautiful little dog came in and began running about the place. The man picked him up and the dog began at once to lick his face, and broke a pimple that was on his cheek. After holding and fondling the dog for a while the man put him down, wiped the little wound on his face caused by the broken pimple and thought no more of it. The dog stayed around a little while and finally went off. In four weeks that man developed a typical case of hydrophobia and died. I could cite several cases of hydrophobia in man that came under my notice, following slight abrasions which promptly healed, but time does not permit.

Another fallacious idea is that a rabid dog will not drink water. Now that is not true, for they will often lap up eagerly all they can get, even dirty and foul water. That symptom in hydrophobia in man, is not present at all in animals.

I will cite a case that I saw in the Cook County Hospital some years ago; A man was walking along the lake front; a dog which had been swimming in the water jumped out and upon the man, and made a tooth abrasion on the face. The man paid no attention to the slight wound because he thought the fact that the dog came up out of the water was proof positive that he was safe. In four weeks he was taken to the hospital with hydrophobia. Even there, in spite of the typical symptoms of the disease, the attending physicians doubted somewhat the diagnosis of hydrophobia because the dog had come out of the water. Examinations made after death and inoculations made on rabbits proved the diagnosis beyond a doubt. They all died after fourteen days with typical rabies symptoms.

Then again, people sometimes will argue that the dog having no convulsions, cannot be rabid, and take no precautions. The stage of convulsions and paralysis is only present in the second and third stages of the disease. The first stage is the most dangerous period, because not recognized promptly and many deaths are caused by the fact that the owners of the animal were laboring under the false impression that because he did not have convulsions he could not be rabid; and also by killing the animal too soon, before the true symptoms of rabies have appeared.

It is strange the lengths to which people will go trying to prove that there is no such thing as rabies. They will tell you that it is stomach trouble, and one veterinarian in the city some years ago contended that all dogs presenting the symptoms of rabies were not rabid, but had diphtheria, because the throat symptoms were exactly those of diphtheria. I know a veterinarian in the city who within the past ten years has published innumerable articles denying the existence of rabies, but I have learned that recently he has been converted.

What we must do is to educate the doctors and the people. Educate the doctors to the importance of the subject, and the people out of their false ideas. We must instruct them how to recognize the symptoms.

Owners of dogs are the first to be educated. The mere matter of having a little brass tag on the dog's neck does not prove anything. It merely shows that he has an owner and that that owner has paid two dollars for the privilege of keeping him. The owner should have instructions as to a proper muzzle. The tag will not prevent the dog from biting or being bitten.

The paper read is a wise and timely one and I do hope that the trouble the doctor has taken to prepare it will bear fruit. I should like to see thousands of reprints of this paper distributed so that every household would know how to recognize the symptoms and what to do in case of dog bite.

The prevention of disease is the future of our profession. The doctor in the future is not going to be so much engaged in the curing of sickness as he is in the prevention of it. If we wish to educate the people as to what they may expect of us in the way of prevention, we must go to them with public lectures and free distribution of literature for their information.

When a person is bitten you know what to do. If a diagnosis of rabies in the animal is made the Pasteur treatment is the only thing there is to do. Statistics prove that it is the true preventative. In the institute in Chicago we have reached 5,000 cases treated and the mortality has been about eighteen hundredths of 1 per cent. Last year of the 750 cases treated we do not know a single death, showing conclusively that the Pasteur treatment is the true preventative, but if you want to get rid of the disease, as England and Germany are rid of it, the dogs must be suppressed or taken better care of and the laws enforced.

Dr. F. O. Tonney: I have been very much impressed by what Dr. Stimson has said in regard to a skepticism which prevails as to the existence of the disease, rabies. I have had some little personal experience in this regard which has impressed the subject upon my mind. During the past year a physician called upon me at the Municipal Laboratory and expressed in quite strong language his disbelief as to the existence of rabies, and also as to the presence of any microscopic appearances in the brain which could serve as a basis for diagnosis. Fortunately, I was able to show him slides containing Negri bodies and also to exhibit animals suffering from the disease. This seemed to have some effect, but nevertheless he went away stoutly maintaining that there could be no such thing as rabies in a human being.

I remember also a more recent case, that of a woman,—Gertrude Ross by name—who was recently bitten by a rabid dog. In an interview with a reporter, she is quoted as ridiculing the idea that there could be any danger from such a source. She had been engaged nearly all her life in raising dogs, she said, and she guessed she knew something about them. It is enlightening to learn, however, that she was finally prevailed upon to take the treatment, though only to please her friends, as she stated.

It is hardly necessary to point out in a meeting of this kind that such statements come from persons of no scientific standing. The trouble is that their remarks get into print, and thus tend to create public opinion. In this manner the mischief is done. We cannot pass these occurrences by with the mere assurance that the persons, so expressing themselves, are not authorities on the subject. The general public is all too apt to judge of the competency of an authority by the vigor of his language, and misleading statements, such as appear from time to time, do tend to foster indifference and create a false sense of security.

Of course, it goes without saying that attention should be given to combating the skepticism so produced whenever it is encountered. This may be done in a number of ways. I recall an occurrence in an Eastern city, which I may cite as one method of accomplishing this end. A pound keeper was bitten by a dog and after a time died of rabies. A portion of his brain was secured by the State Veterinary College and inoculated into dogs and rabbits. The injected animals came down in due time with rabies, and further inoculations from the first set of animals produced the same results. The case was given the very widest publicity and did a great deal of good. I may say that the Health Department Laboratory is now conducting tests of a similar nature with a human brain, which was found to contain Negri bodies a few days ago. There of course can be no scientific interest attached to such a set of experiments, as there is no longer any shadow of a doubt that the disease exists and can be transmitted from man to animal and vice versa by inoculation of the brain tissue. The object of the test is not a scientific but a practical one. It is to bring the lesson home forcibly to those who persist in talking in the face of facts.

Within the last three months we can cite three sad examples of the reality of the disease in human beings. The very possibility that such cases can occur is due in part, at least, to the pernicious disbelief fostered by such misleading statements as have just been mentioned. The three cases referred to are: Earl Barnes, 7 years old, who died at the County Hospital on September 25; Edward Furlong, 5 years of age, who died on September 29, and Edward Krueger, 4 years old, who died on October 2.

To illustrate the increased prevalence of rabies among dogs in Chicago during the last year, I will give a few figures from the records of the Health Department Laboratory. I have gone back five years only.

Year	Total Specimens Examined	Number of Positives
1907	10	3
1908	40	10
1909	16	2
1910	105	5
1911	123	77

to date including one human brain.

The number of persons bitten, according to our records, is 161. This number does not include all which came under Dr. Lagorio's care, nor does the list of dogs represent the total number examined. Dr. Lagorio has, no doubt, examined an equal number.

In this connection the human mortality figures are interesting. We have had no large number of human deaths since 1904, when fourteen deaths were reported. In 1907, there were four human deaths from rabies; in 1908, one; in 1909, three; in 1910, none recorded; in 1911, to date, four.

One noteworthy point in connection with these tests is the fact that three have occurred within the past three weeks. All four were among children. We are now reaping a crop of human cases, which are the result of the unusual prevalence of rabies in dogs during the earlier months of the year. Moreover, I venture to predict that there will be a number of additional human cases before the year is out. It is to be expected also that there will be some deaths among adults, as the cases of children naturally appear first because of the shorter incubation period.

For the information of physicians present, who are often called upon to give advice when persons are bitten, it may be well to read from the city ordinance governing the disposition of fierce dogs. (Sections from the ordinance read.) The matter is very simple. Merely call up the nearest police station and an officer will be sent to take charge of the details.

As to the remedies, that matter has already been discussed at some length but certain points are worthy of emphasis. As Dr. Stimson has stated, the most important is to give attention to ownerless dogs. It is estimated by those who are in the best position to know that there are about 10,000 such dogs in Chicago. These are the so-called "strays." It goes without saying that they should be impounded, held for a period of time and then, if uncalled for, disposed of in a painless way. If we are to make any progress in stamping out rabies, we must certainly do this.

The next most important step is the enforcement of the muzzling ordinance as applied to licensed dogs. These number about 63,000 at the present time. I have a suggestion to offer in reference to this feature of the control of rabies. I venture the assertion that not more than 10 per cent. of the owners of dogs which have been licensed in this city, have even purchased muzzles. The license fee in this city is \$2.00 and the cost of a muzzle is in the neighborhood of 50c. It would seem that an important step toward the control of the situation could be attained if the city would raise the fee to \$2.50 and throw in a muzzle. If nothing else were accomplished, we would at least have an approved style of muzzle. Now we see all sorts of worthless types in use. Some people do not seem to recognize the difference between a muzzle and a piece of strap hanging from the collar. Another advantage would be the certainty that every dog owner in the city possessed a muzzle. This, of course, would not insure its proper use, but at least an essential pre-requisite to stricter enforcement of the muzzling ordinance would have been achieved.

Lastly, we must of course recognize the value of the Pasteur treatment, in fact its absolute necessity under existing conditions. It will continue to be a necessity until such a time as effective measures for stamping out rabies in dogs can be put into operation. For the present, therefore, we must continue to recommend the early administration of the preventive treatment to all those who become exposed to the disease, even though the fact that there *are* such exposures is a constant reminder of our failure to take advantage of the more rational means of prevention so ably presented by other speakers of the evening.

Dr. C. V. Spawr: Dr. Stimson said in his paper that when he began his studies of the subject he was innocent of a great deal of knowledge. I found that I was in the same position when I came to the Iroquois Memorial Hospital last spring. I had read of hydrophobia and had read of rabies in the text books and knew that rabies and hydrophobia were synonymous terms, but that was about as far as my knowledge went. Later I treated cases by the Pasteur treatment, but so far as actual knowledge went I never knew from observation that there was such a thing as hydrophobia until I saw a case last Friday evening at the Cook County Hospital. One was enough! I never wish to see another.

I have been asked to take up this subject from the standpoint of treatment in the hospital. We have had reported to us some sixty-five or seventy cases of dog- or cat-bites—four or five, I believe, were cat-bites—but we have not kept definite track. In all, there were about seventy animal bites. Including those we have now under treatment (seventeen or eighteen) we have given treatment to about forty-five of those who have reported to us.

The method of obtaining the virus has been pretty well explained by Dr. Young. The patient reports for treatment. If found worthy of gratuitous treatment, we wire to Washington for the necessary treatment, having had a definite diagnosis of rabies from the laboratory and from every standpoint. The patient is notified of the arrival of the treatment and reports at once. It is then followed out by the usual method of the Pasteur treatment.

The dried rabies-infected cords are attenuated and their virulence modified by drying from one to eight days. We begin first with the eight day virus. The

first day we give three injections, one of the eight day virus, one of the seven day and one of the six. The second and third days we give two injections, after which it is given but once a day for the remaining days of the treatment (twenty-one).

In mild, or ordinary, infections we come down to the two-day virus. In the intensified treatment, where there has been a lapse of time since the biting, or where the bites were bad, or on exposed parts of the body (the hands or the face) we more rapidly approach the strong virus and give the one-day strength.

The attitude of the people toward the treatment: Almost universally they approach it with fear and trembling. After the first injection that disappears except in some children and highly strung adults. I have in mind one patient who was a very nervous, neurotic woman and under high nervous tension. She complained a great deal of the treatment and yet each time that the injections were given when we asked her if it hurt, she would say it did not. The children with whom we have had trouble have been those over whom the parents had almost no control. One after having taken six or seven treatments became so highly wrought up that they were discontinued.

One man was treated for six or seven days and then said that he was going to Oak Forest, that he had tuberculosis quite badly. He reported again a few days ago and had not been at Oak Forest at all. He seemed to have suffered no ill results from his bite, which occurred in the latter part of June. Outside of those few instances almost every patient has continued the treatment to completion. One patient, a mail carrier bitten in the leg, took twenty-three injections, one child took only four. One police officer and a small boy took twenty-four each.

As to the symptoms during the course of the treatment; there is not much to say because there are no results observed so far that were traceable to the treatment. Some have shown a slight rise of temperature. One was about 99.6 at the beginning and after the first couple of days showed a record of over or about 100 or 101 for about seven or eight days, then it dropped back to 99 and at the end of the treatment was about normal.

Another ran a sub-normal, between 99 and 98. Another has been running 99 and 100 during the entire course of the treatment. Two days showed less, about 98.4 or 98.6, but practically normal.

Unfortunately, however, any ailment that may come upon the patient during the course of the treatment is ascribed to the treatment. One man failed to report for treatment one day. He said that he had had cramps so that he could not get up. Evidently he had eaten something that did not agree with him. He was questioned very closely, to try to establish some connection between the treatment and his sickness, but we could not find anything.

One patient came regularly for treatment several days (I have forgotten just exactly how long). She was bitten on August 19 but did not report until the 27th. She was very averse to taking the treatment, claiming to have been advised both for and against taking treatment on all sides. She had received letters from the Health Department urging treatment and had been advised by friends that if the bite did not kill her the treatment surely would. She completed treatment and then, unfortunately, contracted pneumonia and died. So far thorough investigation has been unable to prove any connection between the treatment and the pneumonia which caused her death. I have been given to understand that the case was typical lobular pneumonia and could not be ascribed to the treatment. When she completed the treatment she was in as good health as when she began, in fact better, for when she first came to us her anxiety over her bite and the possible outcome of the treatment had told on her physical condition.

We have treated so far (as I said in the beginning) forty-five cases and with the one exception no one has shown any ill effects from the treatment. The other three cases mentioned before by Dr. Tonney and others, had not taken treatment at all so far as I know. The little boy whom I saw last Friday night had had no treatment. His mother, unfortunately, was in an intoxicated condition and did not seem to know very much about it. She was asked how long it had been since

the boy was bitten and she said about six weeks. She said that the bite was not the cause of his sickness—that he had tonsillitis, that he often had it. She did not believe he had hydrophobia even at the time of his death. The other case was more marked. In both we tried the immunized human serum. We had two patients report who were infected. Extracted about half an ounce of blood. Both patients were well along toward the last stage before they came to the County Hospital.

We have good grounds for believing that if they had been taken in at the onset of the symptoms there would have been hope of their recovery with the immunized human serum. The fact remains, however, that we did not get any results from the serum we did use.

I wish to say in closing that I like the manner in which the speakers have all taken the blame from where it does not belong and placed it where it does belong. It is not the fault of the Health Department, nor of the police department, nor of the medical profession, but the fault of the people that there is such a thing as hydrophobia. When such simple measures will eradicate the disease entirely it seems to me the fact should be brought before the people in such a way that they will recognize the absolute disgrace of having it in the city. There is no possible excuse but positive negligence. If the people of Chicago could be aroused to a proper sense of their responsibility so that the law would appeal to me as well as to you in the matter of dogs it would not take them long to have something definite accomplished. When the people of Chicago realize that an unmuzzled dog is a positive menace there will be a change and it seems to me that in a few years time the entire disease would be eradicated. While we have a mortality of only four this year, yet that is four too many for it is four people who have died of a preventable disease and who have died because of neglect on the part of someone. I have my doubts, however, about this being done.

Dr. T. J. Sullivan: When a dog is rabid three things may happen: a man is bitten and the dog is immediately killed by a policeman or someone in the neighborhood. A dog has bitten someone and disappeared down a nearby alley and it is impossible to locate him. Or, a dog has bitten a person and is still available and can be kept for observation and control. If they will follow out that method in these three conditions it is a very easy matter to take proper care. The dog that has been killed should have its head removed and the brain examined. In that case it should be no difficult matter to say when treatment should be given. When a dog has disappeared, if it acted in a manner to lead one to believe he was suffering from rabies the patient should receive treatment to be on the safe side. In the third case, when he is still available: he should be put under control.

Many years ago I had occasion to call Dr. Lagorio. At that time he recommended confining the dog for ten days. That course I have followed. I always advise that the animal be kept tied up and properly cared for for ten days and if he is well and happy at the end of that time he is safe to let go. I see Dr. Lagorio now recommends fourteen days.

I have instructed everyone with whom I have come in contact of the fallacy of killing the dog. It is not necessary. Under these three lines of procedure we are safe.

Unfortunately I have observed two deaths from hydrophobia. A saloonkeeper was bitten and another person a mile away was also bitten. The man bitten last died before the saloonkeeper did. I saw him in the last stages of the disease. The fear, the horror of those about him, the screeching, the struggling and calling out "I cannot get air, I cannot get air," and the shrieks so different from any other disease are never to be forgotten. However, water did not frighten him. That is well known and well written up. He said he could not swallow. Then he would cry out with pain and have it pass through the diaphragm. I kept him under ether to allay the pain until he died.

The next patient was a boy of 11 years, whom I was called to see in consultation. He was suffering from symptoms existing from the day before. The family were unable to make a diagnosis. Arriving there I asked him to swallow. When he attempted to swallow he had all the fearful symptoms so peculiar to this

disease and shrieked. Then by getting behind him and slapping him I brought on the spasm. Then I knew there was no doubt as to the diagnosis. It was terrible the suffering of the father and mother when told that he had hydrophobia and must die. They could scarcely believe that he had it and insisted that he had not been bitten. Everyone in the neighborhood was alarmed. The father went in a carriage to Dr. Lagorio to see if there was a possible chance of anything being done for him, but there was not. Finally a little boy of the neighborhood came in and called to the mind of the father that the boy had come home about four weeks before telling of catching a little dog. He said he was wild and would not let him catch him and bit the child, but the bite did not amount to anything. Then the father remembered that he had seen the wound and that it was nothing but a little scratch.

We ought to educate the people. We cannot educate a large mass of them at any one time and a certain number will always go without treatment. The time to begin is right now. With the help of the Health Department and the Police Department and proper education this disease can be eradicated.

Dr. Sayre: I notice that the opinion seems to be that the dog should be confined from ten to fourteen days, yet most of the cases mentioned developed after a lapse of four to six weeks. I think we should confine the dog not less than four weeks.

For ten years I was a veterinary surgeon and I do not believe it would be an exaggeration to say that I have seen several hundred rabid dogs and as many rabid horses. The outbreak of the disease has varied from three weeks to six months after the animal was bitten. One outbreak was in a stable where in December a dog was seen to be acting queerly and bit several horses before it was killed by one of the men. The first week in January one animal was brought to the hospital. It was a horse belonging to Burley and Company. It was just beginning to show symptoms and we were not sure it was rabies. We ordered it home at once. That same evening he was perfectly wild and had to be destroyed. Then the horses kept coming down one after another until fifteen were destroyed, the last one in May, and they were all bitten in December. I have seen that happen a number of times. So I think in any case of dog bite the dog should be confined not less than a month.

I do not know whether Dr. Lagorio will recognize me or not, as it is 15 years since I was in veterinary practice, but I have called upon him several times to examine dogs to tell whether they were rabid or not and he has held many post-mortems for me.

This evening has been extremely interesting to me, both the paper and the discussions, but I believe we are not safe unless we confine a dog longer than from ten to fourteen days, because in no case that I can recall has the disease developed under three weeks after the bite. Anything that is as serious as this disease should have ample time to safeguard the public.

Dr. Maximilian Herzog: If we were to confine every dog and every other animal during the entire possible period of incubation, we should have to confine them for three years, because it is a well-known fact that the period of incubation of rabies may extend in man and in horses and cows to three years and perhaps more. We do not know what the outside limit of the period of incubation may be in the dog. The long period of incubation, possible in rabies, is still one of the mysterious elements in the natural history of the disease, but the probable explanation is, that rabies, evidently like such well-known protozoan diseases as malaria, trypanosomiasis and Texas fever of cattle, may be latent in the body of man and animals. The observations of Paltauf, made a few years ago, clearly point to the probability of the latency of rabies. Paltauf made post-mortem examinations on the bodies of four persons who had been bitten by rabid dogs. Pasteur treatment had just been started, but the four patients died of intercurrent diseases. Paltauf inoculated portions of the brains and cords from the four cases into rabbits, and these animals all died from the slow third form of rabies, the so-called consumptive form. Now, since the susceptibility of man, as I will show in a minute, is not very great, it cannot be supposed that four consecutive cases

of bites by rabid dogs would all have led to rabies, but it must rather be assumed that rabies in man generally leads to a period of latency, and that in the great majority of cases the virus will be exterminated by the natural protective powers of the body.

A great deal has been said here to-night about the skepticism among the people as to whether or not there is such a disease as rabies. There is, of course; and it is as well defined a specific infectious disease as typhoid fever, cholera, plague, tuberculosis, etc. Strange to say, not one of the speakers has given us the underlying reason for the popular skepticism about the reality of the existence of rabies. The true reason is that man is not very susceptible to rabies. According to the statistics of Paltauf, only about 6 to 9 per cent. of persons bitten by rabid dogs develop rabies. Kirchner's figures for Germany give only 2 to 3 per cent. of all cases. Hoegyes gives a percentage of 13.9, while other authors give between 5 and 6 per cent. Most professional men seem to labor under the impression that every person bitten by a rabid dog will develop rabies, but this is certainly not the case. A good deal depends upon the site of the wound—the nearer it is to the central nervous system the greater the chance of the appearance of rabies; hence, wounds of the face are particularly dangerous. The virus of rabies, probably presented by the so-called Negri bodies, which are very likely protozoa, must first travel along the nerve tracks to the central nervous system before the disease can be produced.

Some points have been made which I wish to emphasize again, because experience in the microscopic examination of a considerable number of dogs' brains in cases of suspected or real rabies has impressed me with their importance.

Dogs showing symptoms of rabies should not be killed, but should be confined for observation, because if they are killed too early in the development of the disease the Negri bodies are not found in the brain, and to find positive proof of the existence of the disease from subdural inoculation of rabbits takes quite a little time, and when a positive diagnosis is made it may be too late to treat the bitten person successfully.

Another point. It has been said that the Pasteur treatment is always absolutely harmless. This is not the case. One out of a thousand patients, receiving this treatment, develops nervous symptoms similar to those of Landry's paralysis. However, only one case, so far as I know, has died from this affection developed after the Pasteur treatment. However, I should say that the Pasteur treatment is always absolutely indicated after bites by rabid dogs. We cannot say in advance whether a person will prove to be susceptible or not and the dangers of the treatment are minimal.

Most of the discussion has been along the line of what to do to stamp out rabies. We should be able to stamp it out as it has been stamped out in several countries of Europe, but the only way to do it is to educate the people to kill off the stray dogs, to muzzle those that have owners, and to report every suspected case. With that we all fully agree. I have kept dogs all my life, but I agree that they should be under control, and until that is done we shall not be able to stamp out rabies.

Dr. Stimson (closing the discussion): As to the question of confinement. Say a dog has bitten a person. He is apparently well and there is no history that he himself has been bitten, but we do not know but he may have been. How long shall we observe him before we admit that there is no danger? I think ten days to two weeks is a reasonable time. I do not say he will never go mad after that time, but the period at which the bite would be dangerous to man would be within ten days to two weeks. In other words, the saliva is not known to be virulent for longer than that time in animals before actual symptoms present.

In speaking of the mortality in man, Dr. Herzog has called attention to the fact that only a very small part of those bitten ever develop rabies. Old statistics give 16 to 20 per cent. That has been considerably reduced as we have got more accurate statistics with more exact information as to whether it was a "sure enough" bite and not just a scratch, and whether the dog was actually rabid. In Prussia the statistics are given by Döbert as 14 per cent. of those significantly

bitten by dogs known to be rabid. These are undoubtedly as correct figures as any. It is my own impression, taking the average of cases as they present to me for treatment, that the mortality would be between 5 and 10 per cent. The mortality in treated persons has been, in our experience, between one-third and one-half of 1 per cent. in all treatments sent out (and at the Hygienic Laboratory), we have treated 350 with no deaths so far.

Another point in Dr. Herzog's remarks is the danger of the treatment itself. He mentioned the possibility of paralysis, a matter on which there is also considerable literature. This need not frighten us away from the treatment, because in a review of the literature over 100,000 persons had been treated and of these only forty had this outcome and two resulted fatally.

THE EUGLOBULIN REACTION IN THE URINE *

ARTHUR R. ELLIOTT, M.D.

CHICAGO

I will employ the few minutes at my disposal to consider the clinical significance of the so-called "euglobulin reaction" in the urine. The technic of this reaction is as follows: Dilute 3 to 5 c.c. of the urine to be tested with four to five times its volume of cold distilled water and acidulate strongly by adding 2 to 3 c.c. of 50 per cent. acetic acid cold, not heating. A diffuse cloudiness, becoming more intense on standing, follows the addition of the acid and is nucleo-proteid or euglobulin.

This simple test has been described in laboratory text-books for many years, and is probably familiar to all possessing any urinary technic, yet its clinical significance, and especially its value in differential diagnosis, is little appreciated. The substance or substances reacting in the above manner to acetic acid have always been regarded as proteids. They were first demonstrated in the urine by Müller in 1885, and were termed by him "globulin." They were next identified by von Noorden as "mucin," this being in turn proved an error by Obermeyer, who claimed that the reaction was produced by "nucleo-albumin." Since then the acetic-acid reaction has generally been regarded clinically as demonstrating nucleo-albuminuria. Among physiologic chemists the matter has, however, not been allowed to rest here. Although theory has been rife, the problem is not yet settled. Important among the attempts at its solution are the observations of Mörner, who claimed that the whole, or at least a large part of the acetic-acid precipitate, consisted of pure proteid, combined with certain acids already present in the urine. These acids are nucleinic, chondroitin-sulphuric and taurocholic. The first two are, according to Mörner, always present in minimal quantity in normal urine. Taurocholic acid is not found in normal urine; it is a bile derivative and gains access to the urine in icterus. These acids combine with albumin entering the urine forming nucleo-albumin, or albumin-taurocholate, according to the acid present. Acetic acid precipitates these three compounds. These views of Mörner have

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

found wide currency, and the precipitate was for a time known as "Mörner's albumin."

More recently, Matsumoto, Oswald and others, as a result of fractional precipitation, arrived at the conclusion that the precipitate with acetic acid consisted of a mixture of euglobulin and fibrinogen. This view has in many quarters superseded the claims of Mörner, and the reaction is now being known as the "euglobulin reaction," and the condition is termed "euglobulinuria." It may well be that there are under differing conditions two distinct proteids which react to acetic acid, at one time nuclealbumin, at another euglobulin. Indeed, Matsumoto concedes that nuclealbumin may occur simultaneously with euglobulin, but that it is much rarer and of secondary importance clinically. The whole matter requires further elucidation.

Turning now to the clinical significance of this reaction, we find it described in connection with a variety of disturbances, systemic as well as urinary, sometimes alone, and often in association with serum-albumin in the urine. In conditions bordering on the physiologic, it is found at times in the urine of individuals who have undergone severe exertion, after cold baths, following convulsions, and in the various forms of so-called physiologic or essential albuminuria. Under pathologic conditions it is found in the urine during the administration of certain drugs (mercury, arsenic, chloroform, etc.), and is occasionally present in catarrhal conditions of the lower urinary tract.

It has been claimed that practically every urine will give a precipitate with acetic acid. Judging from my own experience, I believe this statement to be a great exaggeration. It is possible that with large amounts of urine and using complicated chemical methods, a precipitate may be demonstrated, but it is clinically absent in normal urine, and even in pathologic urines the reaction is comparatively rare. In this connection we may note that Sarzin was unable to demonstrate the test in a single instance of 200 cases which he examined in Senator's clinic. Citron arrived at similar results, and Simon says that he found it in only a small percentage of several thousand urines.

The nucleo-proteids are obtainable from the nuclei and protoplasm of cells. They appear to be the most abundant of the proteid materials obtainable from cells. It is claimed that the proteids precipitated from the urine by acetic acid are derived from desquamating epithelia of the urinary tract, with resulting degeneration of cell nuclei and liberation of cellular proteids. Matsumoto denies this, and shows that even though a urine containing numerous epithelial casts, renal epithelia and leukocytes be allowed to stand for some time, a substance precipitated by acetic acid does not occur at all, or only in minute traces. Moreover, the conditions in which we find the reaction most constantly and typically present are not notable for epithelial desquamation. As a matter of fact, we find the euglobulin reaction present in the following three varieties: 1. Where there is irritation of the renal parenchyma, i. e., fevers, oxaluria, toxic irritations, infective nephritis. 2. In ureteral, vesical, prostatic and urethral catarrhs. 3. In conditions where we may assume there is present

some alteration of the blood proteins, i. e., essential anemias, leukemias, amyloidosis, orthostatic and adolescent albuminurias. Seldom do we encounter the reaction in greater than a minimal trace without there being serum-albumin or serum-globulin in the urine.

There are certain albuminurias which are being observed with some frequency by the discriminating clinician, but which are as a rule entirely misunderstood by the average practitioner. For want of a better name they may be designated "harmless albuminuria." They possess certain characteristics in common. They are met with as a rule in the first three decades of life, and most commonly before the age of 20, the quantity of albumin as a rule is not great, although it is subject to increase under certain special circumstances (excitement, exertion, upright position); there is often a certain intermittency in the excretion of albumin, which in special instances may assume a cyclical fluctuation; there is an absence of degenerative tube-casts, although hyalin and light granular casts are often found, and finally, although the albuminuria may be of long duration, there is a noticeable absence of the arterial hypertension and cardiac enlargement usual in chronic nephritis. This type of albuminuria has been more or less studied under certain special designations.

We have, for instance, been made familiar with orthostatic or postural albuminuria by an abundant literature, which, however, has not as yet revealed its true nature. Another form may be called "simple continuous albuminuria," a chronic albuminuria beginning in youth, usually of unknown origin, enduring for years without exerting any apparent detriment to the individual. Still a third has been described as "residual albuminuria," so called from its primary origin in an acute nephritis, this disappearing in all essentials except the albuminuria, which persists for months, perhaps years, without cardiovascular or other nephritis secondaries.

I wish to direct your attention to the fact that the presence of the euglobulin reaction in the urine is common to all these varieties of harmless albuminuria. It is as a rule typical and intense in such cases, euglobulin often being the predominating form of albumin in the urine. Attention has been called to this fact before by several authorities (Oswald, Fox, Williams), but it has escaped general notice. The euglobulin reaction is not observed in chronic nephritis. When we place these two facts together this test takes on a certain value, which I think is considerable, as a means of differentiating harmless from organic forms of albuminuria.

The importance of making the distinction is great. Harmless albuminurias are by no means infrequent. In my experience hardly a month passes without a case coming under observation. This form of albuminuria is usually accidentally discovered, and may often be revealed at life insurance examination. It is usually diagnosed as nephritis. This is a great mistake, for in the course of time the albuminuria almost always disappears without harm to the kidneys or the general health. The presence of the acetic-acid reaction marks such a case as harmless, and as a rule the more abundant the reaction the better the prognosis.

It is hardly necessary for me to state that other and extrarenal causes of the reaction should be excluded. This being done, the presence of euglobulin by the acetic-acid test should suggest a harmless type of albuminuria. The greatest difficulty in practice arises in the attempt to distinguish between harmless albuminuria and that dependent on established structural disease of the kidney. Very often, of course, the meaning of an albuminuria is sufficiently obvious. It is seldom that one will find oneself in doubt about acute nephritis or chronic tubal nephritis. The cases that give rise to perplexity are those in which albumin in the urine constitutes the only or almost the only symptom. It is in such cases that the acetic-acid reaction may prove of value.

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UNILATERAL PYELONEPHRITIS *

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This name is given to those cases in which one kidney remains healthy and the other is subject to degenerative changes the result of bacterial invasion on one side, followed by lodgment and precipitation of urinary solids, irritation and inflammatory purulent degeneration. These are cases in which early diagnosis is difficult and consequently rare.

It frequently happens that patients come under observation, who for years have been the subjects of obscure symptoms, such as pain in the back on riding, tenderness in the region of the waist, occasional disturbances of digestion with headaches, dizziness, rigors, occurring irregularly, or with some apparent regularity at intervals, and other symptoms common to a number of diseases. These patients have had no serious illness, but have been the rounds of doctors' offices, receiving all kinds of opinions, frequently because their own statements made light of the ailment. A little calomel was given for catharsis, or a little pepsin for indigestion, the symptoms passed away; the patient was more or less satisfied with the diagnosis and treatment. This went on for a time, when another train of symptoms appeared, slightly different from the preceding, which were given a different name and different treatment, again followed by recovery and satisfaction on the part of the patient. Again and again, a similar train of symptoms appeared, sometimes referred to the stomach, sometimes to a cold, sometimes to "inactive liver," sometimes varying slightly, but increasing in severity through a prolonged period of years. During all this time no very thorough examination seemed to be called for. No urinalysis was made, nor any palpation of the abdomen until the attacks became frequent. Persistent headaches with dizziness, pain through the infracostal regions into the back, sometimes down into the groin with stiffness and lameness, then sudden high fever, having its onset in pronounced

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

chills, high temperature and perspiration, these chills reappearing on alternate days, sometimes irregularly, would call the patient's attention so pointedly, that he asked for more thorough investigation. At last a careful examination was made, the abdomen was palpated in various positions, urinary symptoms were recorded, and a urinalysis made with negative, sometimes with positive results.

The patient who comes with the foregoing history should be carefully questioned as to all forms of preceding minor ailments. The history may disclose no serious illness. There will have been attacks of rheumatism or tonsillitis, ordinary colds, la grippe, slight disturbances of digestion, but nothing to which the patient attached any special importance; nor will a history of lues or gonorrhea appear. Physical examination shows perhaps a patient well nourished, in the prime of life and activity, the very picture of health. Tongue is clean, bowels are regular, there is no disturbance of urinary function, and we are at a loss to account for those rigors and fever. Years ago, and perhaps recently, the diagnosis of malaria was made. But wait; if such a patient is watched, plasmodia cannot be found in the blood. There is no history of residence in malarial regions, nor does the symptomatology tally with that of malaria. Examination of the blood shows a normal proportion of reds and whites, and the hemoglobin content is normal. So far as can be ascertained, there is no disturbance of digestion at the time. Stomach, liver and intestines are normal. A twenty-four-hour specimen of urine is now carefully examined chemically and microscopically. No pathologic constituents are found. In the language of the congressman from North Carolina, "Where are we at?" We must continue our examinations and our study of this case. The tests described in preceding papers will now be made. Pretty soon also a specimen of urine is found in which pus, blood and bacteria abound. The finding of pathologic urine at intervals of itself calls attention to the fact that the trouble may be unilateral. We now resort to the cystoscope and to ureteral catheters. The catheter is passed into one ureter; the specimen thus obtained is perfectly normal. If the catheter passes into the other ureter, there is not much trouble in demonstrating nephritis. But the catheter may not pass on that side. One is not quite certain whether this is due to faulty manipulation, or to obstruction, or possibly occlusion of the ureter. It may be that the cystoscopic light shows erosion and inflammation at the orifice of the ureter on the affected side, or it may not show this. It is safe to conclude that where urine is pathologic part of the time and normal the rest of the time, that the ureter on the side affected is closed part of the time. If this has occurred, then the pelvis of the kidney will become filled up and the kidney enlarged, until in the lapse of time the cortex is destroyed, and it is a mere bag filled with purulent, urinous fluid which gives rise to intermittent symptoms. This sort of degeneration differs from cystic kidney. Meanwhile the other kidney is stimulated gradually to more vigorous excretion. Its parenchyma becomes increased, it has to perform the labor that the other organ fails to perform, so that by the time one organ is useless the other has become doubly useful. This continuance of function permits the individual to

maintain a fair degree of health, or even good health, for years. These slow insidious cases of unilateral pyelonephritis are puzzling and may escape observation for a long time.

The pathology of these cases has its origin in some remote minor infection of the system. Germs enter by way of the tonsils, an attack of tonsillitis ensues and subsides, or is followed by a rheumatoid attack. The lymphatics are invaded by bacteria. Their toxins are not all eliminated. In part, they pass out through the kidneys. Toxin producing bacteria circulate in the blood, and are filtered out through or into the tubuli uriniferi and glomeruli, where they produce irritation and precipitation of toxins, which in turn precipitate the calcium and urea salts, and so form a nidus for calculi. Large numbers of leukocytes congregate, but their phagocytic action is not sufficient to overcome the localized trouble, and pus accumulates, part of which is discharged, so long as the ureter remains patulous. If minute calculi are set free, they will pass out, or they may lodge in the calyces, but if they are imbedded they remain fixed and so become foci for the deposit of pus.

The kidney as a filter retains part of the toxin-producing bacteria, so here is the beginning of a trouble, which in the course of years develops extensive pyelonephritis. The external symptoms manifest themselves only in a slight manner from time to time, becoming severe and pronounced when the kidney is further degenerated, the ureter occluded and the whole filled with purulent fluid. Parenchymatous nephritis follows scarlatina, diphtheria and other diseases. In like manner nephritis will follow lesser ailments. It is well recognized that irritation of the digestive tract may irritate the integument. In like manner the kidneys are irritated in their efforts to eliminate bacteria and their toxins. Indeed, infections supposed to travel upward per ureter may travel downward by a more circuitous route. Is not the urine modified by all the various febrile disturbances? What more reasonable than that disease germs which find their atrium in the tonsils or in some lesion of the skin, should endeavor to find their exit with the urine? Mixing with an acid excretion they produce precipitates at the very points of exit and so form calculi and localized nephritis.

Through a tense abdomen such a kidney is not always easily demonstrated. It pushes its way downward and laterally, crowding aside the peritoneum and the organs within it. Its own contents fluctuate so that palpation must be very carefully conducted if the kidney is to be felt. Usually, however, at the advanced stage percussion and palpation, together with urinalyses and catheterization of ureters, will make the demonstration of a pyelonephritis certain.

Or the case may have a different beginning. The patient in the prime of health is suddenly attacked with excruciating pains of such extremely agonizing character that the practitioner who sees the case has no difficulty in making the diagnosis of "gravel." Nephritic colic is so characteristic that it can usually be recognized, but the attack terminates and it is years before another occurs. Not all cases of nephritic colic demonstrate nephrolithiasis or lead to pyelonephritis. If, however, a precipitate

occurs in one of the calyces, it will in time produce a calculus and set up disturbance. If a stone forms in the pelvis of the kidney and becomes so large that it cannot pass down it will occlude the ureter and an acute hydronephrosis is set up. This kind of kidney will develop in size, with gradually increasing sense of discomfort and no marked symptoms until it is enormously distended, filling as much as one-third of the abdominal cavity. Such cases are known to have been operated on for appendicitis or cholecystitis, with, of course, no alleviation of symptoms. In a recent post mortem, where death occurred from acute peritonitis, the patient had a long history of pain and local disturbance, and was examined by several of our best men, none of whom "tumbled" to the possibility of a pyelonephritis. Yet the kidney contained about 2½ pints of purulent fluid, and had only a thin wall representing what was formerly the cortex. It is quite easy to overlook such kidneys; in fact, the stomach, the appendix, the ovary, the gall-bladder and other organs are accused of disturbances which in the end are traceable to this form of disease.

CASE 1.—Patient, a high-school principal with no history of previous illness, became the subject of repeated, violent, excruciating pain in the groin of the right side and was operated on for appendicitis. His pain returned before the appendectomy wound had healed. He became a morphin fiend. Large quantities of morphin scarcely sufficed to alleviate the excruciating agony of his sufferings. He added whisky to the morphin, and obtained occasional relief when the paroxysm was severe. On careful examination he was told that he had pyelonephritis with stone in his kidney. Further examination by means of the *x*-ray revealed stones lying in the pelvis of the kidney. Nephrectomy gave complete relief.

CASE 2.—Fireman of stationary engine, aged 35 years. Worked at this for years. Never sick except colds; tonsillitis, now and then. Within the last three years occasional headaches, dizziness, high fever, and consequent general prostration. Chills and temperature would recur at irregular intervals. It hurt to ride in a street car; his back was sore over right kidney region. Urine showed pus and blood after each attack of fever. The left side was not at all sore. Operation for removal of right kidney which was found to contain a large quantity of pus in which tubercle bacilli were found. Slow recovery. Took out-door and diet treatment, so that his recovery from tuberculosis seems to be complete, for he is in excellent flesh and strength a year later. Repeated urinalyses show normal urine.

CASE 3.—G. Moulder, aged 37 years. A muscular, well built man weighing 160 pounds. Obscure symptoms of indigestion, backache, weakness, occasional headaches. No history of any previous illness, except occasional attacks of sore throat. Had sudden onset of fever with rigors, pain in the back, and high temperature. The rigors were repeated the third day, then the fifth day, and subsided with apparent recovery. Patient remained well for six months, then another attack similar to the first. He had four or five attacks of this kind at intervals. The last of which I knew was intense in its severity, temperature rising to 106°, but subsided after a few hours. Palpation revealed a left kidney large and tender. Urinalyses showed blood and abundant pus. When told that he had a case of pyelonephritis and that an operation was necessary, I was dismissed, and he passed under the care of another physician who consented to treat him without operation. A few months after this the patient was under my observation for a short time. He was much reduced in health and vigor, with his old symptoms still coming at irregular intervals.

CASE 4.—Principal of high school, aged 47 years. No history of preceding illness except diseases of childhood and tonsillitis. For the past twelve years

he had "spells," some of them of indefinable illness with periods of anorexia, malaise and slight fever. These attacks would pass away, leaving him in fair condition, except that he lacked vigor and ambition. The "spells" became more frequent, appearing at intervals of a few months. Finally, during last summer he went to the hospital and requested an examination, which I carefully made, including urinalyses. I was able to palpate a very large right kidney, which was not very tender on pressure, but it filled apparently the right half of the abdominal cavity. Urinalyses were made at intervals, some of which showed perfectly normal urine, and some the presence of pus. He consented to the removal of the right kidney which was found to be a great bag full of urinous pus, weighing in all about forty ounces, and a calculus which weighed three hundred grains. The recovery from the operation was complete and satisfactory, and he continues his occupation as teacher in excellent health.

CASE 5.—Laborer and farmer, aged 47 years. No history of severe illness, but for years he had run down, lost flesh, energy and strength. He was repeatedly examined and treated for indigestion. Was an excessive user of tobacco and a moderate drinker. Six weeks before I saw him urinalysis was made, and he was told that his kidneys were all right. When coming under my observation, he presented a sallow, almost cachectic appearance. He complained of pain in his back, occasional headaches and fever with chills followed by sweating. On examination his right kidney was found very much enlarged. However, he refused to have an operation, but later consented when urinalysis showed pus. This kidney contained two pints of pus, and a calculus down in its pelvis which occluded the ureter. Recovery after operation was perfect. He regained flesh rapidly, and the remaining kidney is functioning with only a trace of albumin now and then.

It will be seen from the foregoing that I have not referred to infections of the kidney pelvis by way of the ureter. Such infections are frequent, but they do not account for pyelonephritis which occurs in patients who have no history of urethritis or cystitis. The cases in which infection travels from below upward may be readily distinguished. It is those in which the onset of symptoms is gradual and the causation obscure, that we should be on our guard as to the possibility of kidney infection by means of bacteria traveling through the lymph-channels and capillaries. The bacillus coli communis, the pyocyaneus, the tubercle bacillus—setting up tuberculosis of the kidney, the bacillus typhosus, staphylococci or any other pathogenic germs may be the cause of this form of kidney infection, finding lodgment without primary serious disease of the general system.

The clinical picture of an acute attack in a case of this kind is characteristic. After some indiscretion of diet or exposure or overwork, the patient becomes ill with nausea, vomiting or a general malaise resembling a variety of troubles. He is suddenly prostrated, takes to his bed, chills are violent, temperature rises sometimes to 106 F., remains there for a short time, when it drops to subnormal, and again rises with a chill or remains low. During this time there is no localized pain except slight soreness on palpation, so that most patients will refuse to believe when it is suggested that these attacks are due to pus in a kidney. Or there may be intense soreness over the entire peritoneum, so that palpation is difficult. A little later in the attack the kidney may be felt and may be quite distinct as a huge, boggy cyst filling one of the upper quadrants of the abdomen. There is usually a point of tenderness half way between the termination of the ninth rib and the umbilicus. This point varies with

the size of the kidney. Of course, if the left kidney is involved, care must be taken to differentiate from enlarged spleen.

If the latter be present, the symptomatology of the case will differ radically. In examining for enlarged kidney the patient should always be turned on his side, even clear over, face downward. By varying positions from the dorsal to the prone, the sense of touch is materially aided. In muscular subjects palpation is always difficult. Just after an attack the urine should be carefully watched. In fact, all of the urine should for several days be examined, so long as there is any question about the diagnosis.

It is of utmost importance that early diagnosis be made; hence it is necessary to make frequent urinalyses when a kidney is suspected. Thoroughness here will lead to the right solution of a puzzling condition. It is never wise to dismiss the patient with the assurance that his kidneys are all right. To do this will lead to error. Recently I removed a kidney containing 40 ounces of pus and a large calculus from a man whose urine was examined six weeks before, and the assurance given him that his kidneys were all right. If these kidneys can be detected early it becomes possible to treat them successfully by incision and drainage, or decapsulation, or removal of the calculus. If, however, the diagnosis is not made until the parenchyma of the organ has degenerated, then nothing short of complete nephrectomy will suffice. Long before this stage is reached, the patient will be a physical wreck, not knowing why, and when the nephrectomy is completed, he is minus one important organ and subject to the increased risk of diminished function by the use of only one. Therefore, early detection of this condition is all important, because then the patient can be relieved without sacrificing a kidney.

This question is up to the practitioner, whose diagnostic acumen will be put to the test. A careful exercise of it, however, will lead him to the right conclusion. The consultant or the surgeon who will then see the case will have the easier task of confirming his colleague's diagnosis. By the concurrence of two or more carefully formed opinions, the patient will be led to adopt early and radical measures for relief.

FUNCTIONAL KIDNEY DIAGNOSIS *

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It is impossible, in the limited time at our disposal, to go at any length into the details of the successive steps of the progress of renal surgery. From the time that the first kidney operation was performed, now over fifty years ago, at which time the diagnosis was made with the usual physical methods, and with the ordinary urinary examinations, has the need of further aids in order to establish both a correct diagnosis

* Read before the Illinois State Medical Society as part of a Symposium on the Kidney, May 17, 1911.

and prognosis been recognized; so from that time, up to the present, new methods of examination and aids of all kinds have been introduced. As a result of these advances in diagnosis, the operative results undoubtedly are far better now than formerly.

It was Virchow who first stated that it was necessary to take the functional activity of organs into consideration, and not always to be guided by the pathologic changes. He pointed out that organs almost entirely diseased often carried out the work assigned them far better than organs that "appeared" healthy. These facts are known to be true clinically. To illustrate: it has been recognized clinically that in hysterical patients anuria may set in, in individuals without known kidney lesions.

Under these circumstances it was recognized long ago that it would be desirable, if possible, to institute methods of examination of the kidneys so that their functional capacity could be determined previous to the undertaking of any operative procedure. This really is the duty of the functional test.

The kidney has a distinct function, both in health and disease. In a general way, it may be stated that in health, the kidney separates certain ingredients from the blood and thus excretes or eliminates in the urine products which no longer need be or can be of service to the body. How and why and when this is done are all still matters of conjecture. In disease pathologic products are found in the urine, as well as variable changes in the percentage rate of products which appear in healthy urine.

It is never to be forgotten that the clinical examination, urinary examination and all other methods of examination must be used whenever considering problems of surgical character. We are inclined to believe that poor operative results, or the belief that better results ought to be attained, have been and are the real factors in the devising of tests which are used for purposes of this kind.

It is not the object of this paper to discuss in detail nor to take up the history of any one or all of these well-known methods which have been in use for some time past.

Considering not only all the speculation as to the value and shortcomings of all these functional tests, it has, ever since the knowledge of functional activity of the kidneys, been a problem to find and introduce a method that would overcome the objections raised by those who do not believe in the possibility of methods which permit of estimating the functional capacity, but also at the same time be easy to carry out and by which accurate results are to be obtained. Thereby to overcome the opponents who believe that such a test is only of value for the particular time that it is carried out; or by those who believe that all color tests are inaccurate, and that functional tests often respond in kidneys that are greatly diseased, or do not respond in those which are apparently healthy, or by those who believe that to simply estimate one substance which may be eliminated should not be taken for a guide as to the power of elimination of other substances.

It must be admitted that there is always room for error in every test, besides room for error in its interpretation. Yet whenever a test appears to be accurate, and the results are verified, it is to be given every credit until shown to be inaccurate.

It is now generally recognized that whenever considering operative work on the higher urinary tract, it becomes necessary to estimate the functional capacity of each kidney separately, which necessitates the collection of the urine from each kidney separately. This can be done in different ways. We consider that ureteral catheterization is the most desirable as well as the most exact method. The compression of one ureter and segregation are hardly sufficient for purposes of this kind. It is needless to go into the technical points in the use of the ureteral catheterization instruments, as these points are well known to all.

We also test the renal function in surgical cases of the prostate and bladder. In these groups of cases the combined or mixed urine is used, as it is either passed by the patient or obtained by catheterization of the bladder, not by catheterization of the kidneys.

We wish to present some figures, selected from a large number of cases, gained in connection with our work with the phenolsulphonephthalein test, first introduced by Geraghty and Rowntree.

The technic of the test is as follows: Fifteen to thirty minutes before the drug is administered the patient is instructed to drink from 400 to 500 c.c. of water, in order to insure good urinary secretion. Unless a good secretion of urine is present, failure of the coloring matter to appear in the urine might erroneously be attributed to lack of excretion of the drug by the kidney, and hence be a source of error, as regards the length of time of appearance.

In cases where an obstructive condition exists at the neck of the bladder (enlarged prostate, contracture of the neck, tumor, etc.), it is best to determine whether or not a retention of urine exists. If a retention has been demonstrated, it is best to fix the catheter *in situ*, and to carry out the test with the catheter in the bladder.

In the cases under discussion only accurate results can be obtained by double ureteral catheterization. The so-called flute-end ureteral catheters were used. These catheters have an eye at the end and two eyes on the sides, giving three openings instead of one. It is best to use catheters of large calibre, so as to collect all the urine, and if possible not permit any to pass alongside the catheter. For various reasons, in a few instances we have been able to catheterize only one side, and have, therefore, been obliged to insert a catheter into the bladder in order to collect the urine which would supposedly represent the other side—and it would, if the catheter in the ureter was of type mentioned and was large enough to prevent urine from passing alongside.

When all is ready 1 c.c. of a solution of phenolsulphonephthalein containing 6 mg., is injected subcutaneously or intramuscularly. The ends of the catheters are placed into previously marked test-tubes containing a drop of a 25 per cent. solution of sodium hydrate, and the time noted when the first pink color appears in the test-tube. The urine is collected

from each catheter for one hour, at which time new receptacles take the place of the old, and the urine is collected for a second hour.

In those cases where the combined or mixed urine is used for determining the functional activity, a catheter is introduced into the bladder, and if necessary the bladder is thoroughly irrigated before adjusting the catheter. This catheter is left *in situ* until the first pink color appears in the alkali solution as above mentioned. The subsequent mode of procedure varies with the individual case. If there is no retention of urine, the catheter is withdrawn and the patient voids his urine at the end of one and two hours, respectively. If, however, a certain amount of retention is present, one of two modes of procedure may be followed: either leaving the catheter in the bladder for two hours and changing receptacles at the end of the first and second hours, or withdrawing the catheter as soon as the drug appears and then passing a catheter at the end of the first and second hours.

For the past few months the same quantity of the drug, namely, 6 mg., has been injected intravenously. The time of appearance of the drug is much more rapid and the total elimination is complete in one hour.

The quantity of urine is measured, specific gravity taken and the amount of urea estimated. The ordinary chemical and microscopic examinations are also carried out.

To each specimen of urine a few drops of a 25 per cent. solution of sodium hydrate are added, whereon the urine assumes a beautiful purple red color. Each specimen is then diluted to 1,000 c.c., and the percentage of dye excreted is estimated with the Duboscq colorimeter by comparison with a standard solution containing 3 mg. to the liter. It is advisable to have the solution distinctly alkaline to bring out as much of the coloring matter as possible.

Geraghty and Rowntree noted that in normal cases five to eleven minutes were required for the appearance of the dye. In our series of normal cases from seven to twelve minutes were required, with an average of ten minutes. They also found that during the first hour 40 to 60 per cent. was excreted, and from 20 to 25 per cent. in the second hour. The figures obtained for the first hour from our normal cases were 40 to 50 per cent., and for the second hour 20 to 35 per cent.

Following the intravenous injection the drug appears in the urine in from two to three minutes and elimination is complete in one hour. About 75 to 80 per cent. is recovered in one hour.

In carrying out this work we have classified and arranged the cases in several groups, depending on whether normal or pathologic, the nature of the lesion, etc. We wish to mention a few examples of each group of cases.

I. Surgical lesions in higher urinary tract.

CASE 1.—Mr. K. Diagnosis, renal calculus (left).

Complaint: For several years has had localized pain in the back over the left kidney. At intervals, varying from one to three or four months, he would have severe attacks of chills and fever, the temperature rising as high as 104 F.

The urine contained a large amount of pus. X-ray examination was negative. Double ureteral catheterization: pus on the left side and clear urine without casts or albumin on the right side. Injection of 6 mg. of phenolsulphonephthalein. Time of appearance, right, 5 minutes; left 25 minutes. Amount excreted for two hours, right 61.37 per cent; left 0.

The left side excreted such a small amount that it was impossible to obtain more than a trace of pink color in the alkali solution. Left-sided nephrectomy. A large sac containing only a few remnants of kidney tissue, and three stones, was removed. Uneventful convalescence.

CASE 2.—Miss J. Tuberculosis of the kidney.

Complaint: About one year prior to coming under observation, patient had been operated on for a bladder stone. She never saw the stone, nor did she obtain any relief from this operation. Her only symptoms were frequency of urination and burning in the urethra.

Cystoscopy and double-sided ureteral catheterization. The urine obtained from the left catheter showed the presence of pus and tubercle bacilli. Right catheter urine clear and free from albumin and casts. Injection of 6 mg. of phenolsulphonephthalein. Time of appearance, right 7 minutes; left 12 minutes. Total drug excreted, right 47.08 per cent.; left 6.32 per cent.

Nephro-ureterectomy. Removal of an enlarged kidney nearly completely destroyed by tuberculosis. Uneventful convalescence.

In these two cases the phenolsulphonephthalein test permitted us to make the following deductions:

1. That a healthy functioning kidney was present and that operation was safe (nephrectomy). This statement was borne out by the post-operative course in each case.

2. That in the first case the pathologic process had completely destroyed the kidney substance, and that in the second case only a small amount of secreting kidney tissue was present. Both of these statements were proved to be correct after the respective kidneys had been removed and examined.

That this test is of value in another class of cases is illustrated by the following:

CASE 3.—Mr. K. Painless hematuria.

Cystoscopy showed blood coming from the left ureteral orifice. Upon admission to the hospital, cessation of the bleeding.

Question: Suppose we had not made the above mentioned cystoscopic and demonstrated the left side as being the side which was the source of the hemorrhage, would it be possible to do so by employing the phenolsulphonephthalein test and so demonstrating a difference in the functioning capacity of the two kidneys?

Injection of 6 mg. of phenolsulphonephthalein. Time of appearance, right 2 minutes; left $2\frac{1}{4}$ minutes. Total drug excreted, right 49.01 per cent.; left 30.45 per cent.

The early appearance of the drug in the urine is due to the fact that it was given intravenously. It shows a difference of one-fourth of a minute in favor of the right side. When we come to estimate the total work of each kidney, we see that the bleeding side excreted 30.45 per cent., whereas the well side excreted 49.01 per cent., quite clearly demonstrating a difference in the functional capacity of the two kidneys, this difference being most marked on the diseased side.

What is the inference? In this case we are undoubtedly dealing with a recent pathologic process, which process has not had time to destroy a

large amount of kidney tissue. In consequence of this the kidney function is still good, but it is impaired to such a degree that the impairment can be determined clinically by the use of this test.

II. Surgical lesions in lower urinary tract.

For purposes of determining the renal function in lesions of the lower urinary tract, such as enlarged prostates, bladder tumors, strictures of the urethra, etc., we have been using the phenolsulphonephthalein test as a routine procedure before instituting operative measures. That determining the kidney function in this class of cases has a distinct value based on the findings, and hence may be used as a factor in determining the postoperative prognosis, is illustrated by the following three cases:

CASE 4.—Mr. K., aged 56 years. For the past three years has been obliged to urinate two or three times each night, ten or twelve times during the day. Feeling of pressure in abdomen, particularly before act of urination. Often difficulty in starting stream which would often be small and without force.

Rectal examination showed large double lobes, medium consistency: 100 c.c. retention of urine. Examination of the abdomen and chest negative. Cystoscopically, lateral lobe enlargement and median lobe size of English walnut. One papilloma size of hen's egg just one centimeter to left of left ureteral orifice.

Injection subcutaneously of 6 mg. of phenolsulphonephthalein: Time of appearance, 11 minutes; total drug excreted, 61.17 per cent.

Operation: suprapubic prostatectomy and removal of the papilloma. Uneventful recovery.

In this case the function was good, both as regards the time of appearance of the drug and the total drug excreted.

CASE 5.—Mr. McK, aged 71 years. Enlarged prostate and vesical calculi. Greatly emaciated and general appearance of suffering. For past eighteen months treated with irrigations and medical treatment for cystitis. More or less constant tenismus with pain in genitalia.

Examination: arteriosclerosis very marked, pulse irregular in character, temperature varying from 99.2 to 100.6 daily. Suprapubic pressure elicited severe pain. Rectal examination: fairly small, irregularly shaped, fairly hard prostate. Seminal vesicles sensitive. Kidneys not palpable. Cystoscopically, bladder irrigated and filled with 120 c.c. water. Examination made with considerable difficulty, showing phosphatic stone size of large Brazilian nut. Marked cystitis, trabeculated bladder and pronounced rosette-shaped prostate.

Injection subcutaneously of 6 mg. of phenolsulphonephthalein: Time of appearance, 50 minutes. Total drug excreted, 43.47 per cent.

These figures show both a delayed time of appearance of the drug as well as diminished total output.

The indications for improving the renal function are quite evident. The patient was accordingly treated with irrigations, permanent catheterization, baths, diuretics and cathartics, and a second reading made four days later, with the following result:

Injection subcutaneously of 6 mg. of phenolsulphonephthalein: Time of appearance, 20 minutes. Total drug excreted, 53.5 per cent.

The improvement in the renal function is apparent, and shows the quick response to the preparatory treatment. The treatment was continued a few days longer and a third injection given, and this time the drug was excreted in twelve minutes. Suprapubic prostatectomy with removal of stones. Uneventful recovery.

The ideal result obtained in Case 5 is a marked contrast to the following case, in which the renal function, as indicated by this test, was much below par and called for preparatory treatment, just as the functional test called for it in the preceding case.

CASE 6.—Mr. K. Enlargement of the prostate.

Complaint: Difficulty with urination for four or five years. At times he is obliged to catheterize himself and this he has done with more or less regularity for over a year. Has had several attacks of complete retention. Two weeks prior to admission to the hospital his last attack of complete retention occurred, so that a physician has been catheterizing him three times daily. This physician, at the end of a week, was unable to introduce any instrument on account of pain, etc., and finally referred patient to the hospital for operation. The urine is foul and bloody and contains a large amount of pus. Injection of 6 mg. of phenolsulphonephthalein.

The first trace of drug appeared in forty minutes. At the end of two hours the urine was very faintly colored, and after dilution it was impossible to make a satisfactory reading.

We advised against operation and recommended "preparatory treatment," which the patient and his family refused to accept on account of the great suffering of the patient. As this was one of our early cases, and not relying entirely on the correct interpretation of this test, we performed a suprapubic prostatectomy, with the result that death followed on the third day from anuria.

CONCLUSIONS

1. The phenolsulphonephthalein test has apparently been of distinct value in a large series of cases, permitting or aiding in selecting cases suitable for operation.

2. It has been found to be of great value in cases where there were lesions of the lower urinary tract and the mixed specimens of urine used; it was equally valuable where the urines have been collected separately and where a consideration of the functional activity of one or both kidneys was to be considered.

3. The carrying out of this test repeatedly on one and the same patient at intervals of three or four days has shown an increase in the rapidity of elimination of the drug as well as an increase in the percentage of drug excreted, both in the first and second hours; and accompanying this, a distinct improvement of the patient clinically during the period of time that preparatory treatment was given. To us this seemed of paramount importance — in fact, no other functional test has ever given us the same opportunity to make similar comparisons.

4. Considering the ease and accuracy with which the test can be carried out — in connection with the ordinary modes of examination — it is by far the most adaptable as well as accurate of any of the functional tests in use at the present time.

DIAGNOSIS AND TREATMENT OF INFECTIONS OF THE RENAL PELVIS *

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The diagnosis of infection of the renal pelvis must depend almost entirely on the cystoscope and the microscope, as the symptomatology is not sufficiently classic for us to reach a definite opinion.

For convenience I have divided infections of the renal pelvis into three groups:

1. Catarrhal pyelitis.
2. Mild purulent pyelitis.
3. Purulent pyelitis.

The diagnosis of the first two groups must be made entirely by the cystoscope and the microscope, although we may suspect the condition from the symptoms.

The one cardinal symptom which stands out prominently is that of frequency of urination, particularly a nocturnal frequency. This may or may not be accompanied with pain, depending on the condition of the vesical mucosa. Another important phase of the condition is the history of frequent relapses of cystitis, which apparently responds to treatment, but in a short time after treatment is discontinued the bladder condition returns, the relapses being due to the bacteria-laden urine coming from the renal pelvis.

Patients may or may not have pain in the back; the pain may be localized on one side or both. The pain, however, is not a criterion of the kidney condition, as I have seen pain on one side when the infection was found to be on the other side. I have seen severe pelvic infections where the pain was localized anterior, around the umbilicus or over the bladder.

In purulent types, where there is a large amount of pus, the pain is more constant and there is usually a distinct febrile movement. The pain and fever are usually due to a blocking of the ureter, with distention and absorption. At this time the urine, if the condition is unilateral, is absolutely free from pus. I will report a case of unilateral infection wherein this feature was responsible for an erroneous diagnosis, as repeated examinations failed to show pus.

After it has been ascertained that the patient is suffering with a pyelitis, it is absolutely necessary to learn whether the condition is unilateral or bilateral. This is accomplished only with the aid of the ureteral catheter. At the same time it is essential to culture the specimen so as to reach a definite conclusion as to the bacterial element in the case.

I believe that the gonococcus is responsible to a marked degree as an exciting cause in these conditions; the inflammatory condition thus begun produces an excellent field for a further growth of other bacteria. I have

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society, at Aurora, May 16-18, 1911.

never been able to isolate the gonococcus from the kidney pelvis, yet I have examined thousands of specimens drawn directly from the pelvis. The large majority of these cases in the male gave a history of one or more gonorrheas with posterior urethra or bladder complications. The most common history in the female is that of a cystitis usually following a retention, due to any one of a number of causes, the retention relieved by the use of frequent catheterizations. Special surgical care must be exerted in the female when it is necessary to use the catheter frequently.

The most common forms of infection are: *B. coli communis*, staphylococcus, streptococcus and *B. tuberculosis*, or, as is very common, a mixed infection of any of the ones mentioned above. It is the exception and not the rule that I have found pure cultures; the infection is usually a mixed one. Therefore, it is vastly important in making a vaccine to use the patient's own bacteria for this purpose. Time will not allow me to go into a lengthy discussion of this exceedingly common and important subject, but I will give a short outline as to treatment of these cases, my experience being based on careful study and observation of a very large number of cases which have come under my observation during the last ten years.

A number of years ago I was treating the cases entirely by lavage of the renal pelvis and eradicated the infection in the majority of cases, yet there were a small number that would not clear up so that the urine would be entirely free from bacteria. During the last two or three years I have been using, in combination with lavage, injections of autogenous vaccines and my results have been nearly perfect. I have found that the cases all clear up much more rapidly this way than with either lavage alone or vaccines alone.

The lavage is carried out about once every five days by injection through the ureteral catheter with a solution of one of the silver salts. Silver nitrate solution is preferable, although I use argyrol, nargol, protargol, albargin and other forms of the drug. It is well when using silver nitrate to lavage the bladder with salt solution, leaving some in that viscus after the treatment to the kidney pelvis; if this precaution is not taken the silver is apt to produce a marked frequency of urination with severe tenesmus.

The catarrhal and mild purulent forms will clear up very rapidly, surprisingly so in some of the cases. I have seen cases where from one to ten treatments were sufficient, the urine remaining quite bacteria free, the symptoms all disappearing. These cases, however, are the more difficult to diagnose, and unless especial care be taken the condition will be overlooked and will not be recognized until the condition becomes one of marked purulent type, whereas if recognized early the pelvic infection may be absolutely eradicated.

Just a moment or two of your time for a short synopsis of three or four cases:

CASE 1.—Mr. A., sent to me by Dr. Rininger of Seattle, Washington. No venereal history. Family history negative. Had history of pain in left kidney, which pain was more or less constant. Was operated upon for stone in the kidney. No stone found. Wound healed nicely. Was free from symptoms for a

period of one year. Began to have pain in the region of the left kidney, pain was more severe anterior in epigastrium. Had severe vomiting for several weeks. Physician made repeated examinations of the urine and found no pus. Patient was losing weight rapidly. Had marked febrile phenomenon; owing to the classic symptoms portrayed a tentative diagnosis of gastric ulcer was made.

When I first saw the patient he was brought to my office in a dazed condition, temperature 103.6°. History showed chills, fever and sweats. Cystoscopy showed marked edema and redness of the left orifice. Catheterization of the ureters showed normal urine from the right kidney, nothing from the left kidney. After irrigating through the catheter into the left pelvis I finally obtained some thick, pussy material; this primarily was too thick to run through the catheter or down the ureter, hence this condition with no pus in the urine. Culture showed pure *B. colon* infection. Patient had no more vomiting from the time of the first treatment. He did not remember having been at my office at the time of the first visit. He was given lavage twice a week with injection of vaccine once a week. He had twenty-seven (27) treatments, after which his urine became bacteria free. I have seen this patient within the last few days and examination shows the kidney urine to be absolutely normal.

CASE 2.—Mrs. S., sent to me by Dr. Ferguson. She had had two stones removed from the pelvis of the left kidney, by Dr. Ferguson. A stone had been removed from the same pelvis by Dr. Mayo eight months prior.

Catheterized specimens showed marked infection of the pelvis of the left side. This examination was made prior to Dr. Ferguson's operation. Four months after the operation she consulted me and examination showed pure staphylococcus infection of the left kidney pelvis. Vaccines were made. For about two months the patient had been having daily chills with rise of temperature, and evidences of a cystitis. For years she had not been free from pain in her back, this was not even relieved by her operations.

After one lavage and one injection of 400,000,000 dead staphylococci her symptoms absolutely disappeared. She is still under my care and after a few more treatments I hope to be able to discharge her cured. An *x-ray* shows no stone in the kidney. Since reading this paper the infection has entirely disappeared and the patient has recovered. Urine absolutely bacteria free.

CASE 3.—Mr. F., sent to me by Dr. Schwab. Had a history of an enteric fever. Kidney trouble began a short time later with the presence of a large amount of pus in the urine, chills, fever and sweats. Internal treatment failed to relieve him. Examination showed a large tender kidney on the left side. Normal kidney on the right side. Cystoscopic examination showed normal bladder and apparently normal ureteric orifices. Catheterization of the ureters was easily accomplished, normal urine from right side. There was nothing seen coming through the catheter on the left side. Irrigation with sterile water brought, through the catheter, thick, ropey material which was almost pure pus. Culture showed pure staphylococcic infection.

Owing to a marked inflammatory condition of the ureter I have not since been able to pass a catheter into the pelvis of the left kidney, due to the marked edema of the mucosa. I have been giving him 400,000,000 dead staphylococci every five days. His constitutional symptoms have all disappeared and he is distinctly better. There is still a large amount of pus, so large in fact that I can not say whether or not it is less than formerly. I hope to be able to perform a lavage soon and I feel confident that with the combination treatment I can get him well without a nephrotomy.

I have seen such gratifying results from this form of treatment that I am sure that it should be given a fair trial in all septic conditions involving the kidney and renal pelvis.

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THE ANESTHETIST AS A MEMBER OF THE SURGICAL TEAM *

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There has grown up around modern surgery the necessity of having a number of trained assistants, each having certain duties to perform, at a given time, following a regular routine in carrying out the technic of a given operation.

This corps of assistants has been aptly termed "the team" — team in the sense it is used in baseball — men trained to work together, each in his own place. It is interesting to take a rapid review of the development of the team, each one being added as the developments of surgery demanded them.

Back in the beginning of surgery, the man then occupying the place of the present day anesthetist was chosen because of his brawn rather than brain, and there was usually three or four of him. Having no anesthetics, they simply held the victim when it was deemed necessary to do surgery in order to save life. Their idea of saving life would be classed as emergency work to-day, for, except in rare instances, nothing was done unless the patient was in immediate danger of death as the result of injury or hemorrhage.

It is worthy of note, in passing, that a man's reputation as a surgeon, at that time, was largely dependent on the rapidity of his operation, because then, as now, patients insisted that the pain should be of as short duration as possible.

At this stage of surgery, there was little or no attempt at team work, but after the discovery of anesthetics, and their use generally adopted in surgery, the operation began to be a little more elaborate, which necessitated that the assistant become familiar with what was to be done. Here was the beginning of the team.

Then in a few years came Lord Lister, Pasteur and their followers, who gave us antiseptic, and, later, aseptic surgery, which required a great amount of sterilization to be done. This in turn required the addition of an operating room nurse, and her assistants.

Then Christian Fenger and his followers began to teach and demand that surgery be done with due regard to the pathology of structures to be removed. Fenger and his first followers, many of them, were their own pathologists. As business pressed, it was turned over to laboratories, but the discovery and perfection of freezing and immediate diagnosis, while the surgeon waits, with an open incision, gave the pathologist his place on the team, and required his presence in, or near, the operating room, during the operation.

During all this progress, there was little or no attention paid to anesthesia, and what study was given to it went mostly to discover the safest

* Read at the Sixty-First Annual Meeting of the Illinois State Medical Society at Aurora, May 16-18, 1911.

kind of anesthetic, not in its after-effects, but in immediate effects; in other words, the kind that would be the most apt to get the patient off the table alive, with little or no regard to the amount given, and the method, and skill, of giving.

It is strange that the most important member of the team, the very foundation of surgery, should have been so long neglected. Some, at first thought, may take exception to this statement; but what matters your elaborate technic, your perfect sterilization, or your beautifully stained slides, if no one had surgery done?

No one would tolerate modern surgery, and stand the pain, without anesthesia; and if anesthesia were banished (if that were possible), no surgery would be done, except that in which the pain of the operation would be deemed less than the long suffering resulting from doing without it. Even then, only the courageous would submit.

The real comprehensive study of anesthesia began about 1905. It is interesting to note that there are indexed in the library of the Physicians' Club thirteen articles on anesthesia for 1906, fourteen for 1907, fifty-seven for 1908, fifty-five for 1909, and forty-one for 1910.

In 1905, Drs. Bevan and Favill¹ reported a case in which they had difficulty in making a diagnosis, in a post-operative trouble, notwithstanding the fact that they had in consultation four of the most eminent men of the profession in Chicago. The cause of death was in as much doubt, after the post-mortem, by an equally eminent pathologist. Not until they went through the literature, as reported in that classical article, was the fact established that it was a case of delayed chloroform poisoning.

This only illustrates the lack of attention paid to anesthesia prior to this time, for they discovered twenty-seven cases of delayed chloroform poisoning in the literature, with numerous experiments on animals. Surgeons had read, and not realized; heard, and not heeded. Chloroform had been the anesthetic used in all of the twenty-eight cases of death. However, ether produces a limited amount of necrosis, as shown in the experiments on animals.

The experiments of Offergeld and Benno Müller on animals were reported in this article. Müller made fifty experiments with the usual anesthetics.² His conclusions were:

First: Anesthesia with chloroform, chloral hydrate, bromethel and chlorethel, ether, and mixture of these, always produced changes in the internal organs which appear as beginning fatty changes.

Second: Fatty changes occur in the epithelium of the respiratory tract.

Third: Fatty changes in degree and extent depend on the time and number of anesthetics.

Fourth: The power of the various anesthetics to produce fatty changes is in direct proportion to their anesthetic power.

1. Jour. Am. Med. Assn., Sept. 2, 1905, p. 691.

2. Jour. Am. Med. Assn., Sept. 2, 1905, p. 694.

Fifth: The fatty changes usually disappear shortly after the anesthesia. If a second anesthesia, however, is given before the fatty changes of the first have been recovered from, the effects of the second are enhanced, and the cell becomes necrotic. It makes little difference when the second anesthesia is given, the fatty changes of the second are twice as severe as the first.

Sixth: The anesthetic continues to produce fatty changes as long as it is present in the blood. The fatty changes cannot go on to restoration to normal, until the blood has rid itself of the last vestige of the drug.

Seventh: It is hazardous to give a second anesthesia within three days of the first, and the anesthesia should be as short as possible.

Eighth: Pneumonia occurs frequently after ether and ether mixtures. Because of a possible pneumonia, after a first ether anesthesia, one should choose chloroform, for a second anesthesia.

Ninth: Each anesthesia produces, after long use, an increase in the mucus secretion. One finds, after each anesthesia, small areas in the lungs filled with mucus (not an infected pneumonia), which very soon disappear, but which are greatly increased by a second anesthesia.

Tenth: Chloral hydrate forms chloroform in the system.

Eleventh: The mixed anesthetics have no properties of prevention of fatty changes in the internal organs.

Twelfth: Every anesthesia produces fatty changes, in the walls of the vessels of the brain, and in the ganglion cells, up to a certain stage, and in the other internal organs.

Offergeld's conclusions³ were about the same as Müller's, except in one particular. In Offergeld's eleventh series, the conclusion is reached, that the anesthesia produced by chloroform and oxygen does produce degenerative changes in the liver and kidneys, but only to a limited degree, and in a few days a complete recovery follows.

In the literature that I have access to, I find reported ten cases of death from delayed chloroform poisoning, since 1906. In all these, the symptom complex is almost identical with the twenty-seven reported from the literature, by Bevan and Favill, as well as the one reported by them.

The symptom complex is, mental distress, vomiting, restlessness, delirium, convulsion, coma, Cheyne-Stokes respiration, cyanosis, icterus in varying degrees, terminating in death from forty-eight to 150 hours after the anesthesia.

The post-mortem findings in all the cases are general fatty degeneration, but especially marked in the liver, kidneys and heart muscles.

In 1909 J. W. Bovée⁴ reported urinary findings in thirty-two anesthetics, sixteen of chloroform and sixteen of ether. The urine was collected for the twenty-four hours before the operation. The bladder was emptied just as the anesthesia was to begin, and a permanent catheter

3. Jour. Am. Med. Assn., Sept. 2, 1905, p. 695.

4. Am. Jour. of Obst., June, 1909, p. 1004.

was placed in the urethra, and specimens were taken every fifteen minutes during, and following, the operation, up to one and one-half hours.

Then specimens were collected for the first, and the second, twenty-four hours, following the operation. These six specimens taken during, and shortly following, the operation were each examined and compared with the twenty-four hour specimen before, as well as the first and second twenty-four hour specimens following the operation. His conclusions are:

First: Rate of excretion markedly lessened by chloroform, and ether.

Second: Such diminution greater from chloroform, than ether.

Third: That while chloroform produces diminution of urea, it maintains nearly a normal ratio to the amount secreted. Ether produces greater proportionate lessening of urea, than urine.

Fourth: Either of these anesthetics skilfully given has little effect on casts or albumin.

Fifth: Trendelenburg's position retards the rapidity of the urinary output.

Drs. Hamburger and Ewing, in an article published in 1908, entitled "The Blood Changes Incident to Surgical Anesthesia, with Special Reference to those Induced by Nitrous Oxid Gas. A Clinical and Experimental Study,"⁵ give their conclusions as follows:

Their examinations of the blood were made at a stated time before the anesthesia, and just before the anesthesia, during the anesthesia, and at a stated time following the anesthesia. Their data were obtained from the study of sixty-eight clinical cases, and forty-two experiments with dogs. Their comparisons of the three anesthetics — nitrous oxid gas, ether, and chloroform — are:

First: Nitrous oxid gas causes no permanent changes of any significance.

Second: Ether causes more harmful changes (slight anemia), with marked decrease in coagulation time.

Third: Chloroform causes the most harmful results — hemolysis, and distinct anemia.

All of which demonstrates the fact, that ether or chloroform has a bad effect on the secretory organs, especially the liver and kidneys, and the more given, the greater the effect; therefore, the great need of rapid operations and a trained anesthetist, who will use as little anesthetic as possible to maintain the proper degree of relaxation needed, for each stage of the operation.

As far back as 1892, Robert T. Morris noted the advantage of quick operations, and was able at that time to do an appendectomy in twenty minutes. His "Fourth or Physiologic Era in Surgery,"⁶ was published in 1908. His new principles can be best stated in his own words:

"We are to conserve the natural resistance of the patient, and turn him over to his phagocytes and antibodies, as helpfully as we can. We are to leave the patient in his best condition for manufacturing phago-

5. Jour. Am. Med. Assn., Nov. 7, 1908, p. 1586.

6. Jour. Am. Med. Assn., Aug. 22, 1908, p. 644.

cytes, opsonins, and other antibodies, *through the shortest possible method of anesthesia*, and the least degree of surgery, which will suffice to turn the tide of battle between bacterium and leukocytes."

During the working out of this new principle, the dexterity of the anesthetist began to be considered. He was generally very bad, but still hopeful, and was put in training to prepare himself to qualify as a member of the team.

In December, 1907, Joseph D. Bryant of New York, in an article entitled "Some Unclassified Dangers in Anesthesia,"⁷ makes this remark: "The comparatively recent, though limited, introduction of skilled anesthetists into the professional activities of this country, has established a desideratum, of most satisfactory and beneficent nature, to all immediately concerned in operative practice."

The kind of anesthetic to be used, and the method of using, has been much and warmly discussed during the past five years; but since the report of 14,000 cases from the Mayo clinic,⁸ ether has been generally accepted as the safest; and when ether alone is used, the so-called open, or drop, method gives the best results, and is by far the safest. Its safety over the old, closed method is no doubt due to the freer mixture of oxygen, as pointed out by Offergeld, that oxygen mixed with an anesthetic reduces the danger of fatty changes, and it would be wise to have a better ventilation in our operating rooms.

This method had barely been established when Bevan, Teter, and others, began the use of nitrous oxid gas, for short operations, especially in cases where the kidneys were damaged to such an extent that the after-effects of ether would be dangerous if not fatal. Then Teter further improved his apparatus for giving nitrous oxid gas, in a way to enable the anesthetist to mix a known percentage of oxygen with the gas, and thereby to maintain a safe and proficient anesthesia, up to three, or three and one-half hours.⁹

The objections to the use of nitrous oxid gas are:

First: Many robust or alcoholic patients cannot be relaxed.

Second: The great trouble of finding those proficient in giving it. And,

Third: Greatest of all, the great expense.

However, a later and very recent improvement has been made in the apparatus of Teter, by means of which the patient rebreathes the nitrous oxid gas, the current of gas passing back and forth through a warming coil and over a jar of ether, with stopcocks so arranged that the anesthetist may give gas impregnated with 0.4 of 1 per cent., with 4 per cent., 10 per cent. or 30 per cent. of ether.

He may so arrange the stop cocks, that the patient will get only the gas, or the gas mixed with a known percentage of oxygen. This arrangement has, to a great extent, removed the first objection to the use of nitrous oxid gas. Any patient, no matter how difficult, can be relaxed

7. Med. Rec., Dec. 28, 1907.

8. Surg., Gyn. and Obst., Dec., 1906, p. 795.

9. Jour. Am. Med. Assn., Aug. 7, 1909, p. 448.

by five to ten minutes' use of the ether. The narcotic effect of ether is very powerful by this method because of the complete vaporization of the ether by the heat in the warming coil.

Although the effect is powerful and quick, the recovery is equally prompt. The blood seems able to quickly rid itself of the ether in this state. After the patient has been sufficiently relaxed, the ether may be stopped and the anesthesia completed with nitrous oxid gas. This can be done without removing the mask from the patient's face.

The rebreathing of the gas has greatly reduced the expense, even when the ordinary commercial cylinders are used. However, by the expenditure of a few hundred dollars, an apparatus to manufacture the gas may be installed in any hospital in a convenient space, and the gas piped to the operating rooms.

During a recent visit to Cleveland, Ohio, I saw such an apparatus in operation at the Lakeside Hospital, also one at St. Luke's Hospital, and there is one in process of construction for St. Francis Hospital, Peoria.

While talking to Dr. George Crile of the use of nitrous oxid gas in surgery, the Doctor made a very significant remark. I asked him how he liked the gas. His answer was, "I don't like it, but the patients do." He further qualified this by stating that "A surgeon must accustom himself to operate with gas because the complete relaxation is not achieved as it is with ether, but it is much safer, and I use it as a routine practice." In fact, it seemed the anesthetic of choice in the Lakeside and St. Luke's Hospitals.

Although gas is not free from dangers, it has less dangers than any other anesthetic, is the conclusion of Bloodgood in *Progressive Medicine* for December,¹⁰ and of Haggard in his recent report as a member of the Committee on Anesthesia of the American Medical Association.

Bloodgood and Haggard¹¹ both touch on the rebreathing of nitrous oxid gas.

Bloodgood refers to some laboratory experiments by Henderson. The experiments of Henderson¹² show that the blood has a normal residual amount of carbon dioxid gas of about 4 per cent.

The pain, or whatever produces shock, causes rapid breathing, and thus an over-oxidation, and reduces this normal carbon dioxid of the blood, which is the normal stimulant of the cardio-inhibitory centers. With this stimulant removed, the muscular tone of the venous walls is lessened, and a reduction of venous tone and not arterial is the primary cause of the failure of the circulation in shock.

Haggard¹¹ refers to the clinical experience of Gatch, which seems to confirm the conclusions of Henderson, and he believes the rebreathing to a limited extent will maintain, or possibly increase, the normal carbon dioxid of the blood, and thereby increase the blood pressure and act as a preventive of shock.

The ideal for which an anesthetist must strive is to give as little anesthetic as possible to maintain the degree of relaxation desired by the

10. *Prog. Med.*, December, 1911, xii, 176.

11. *Jour. Am. Med. Assn.*, Dec. 24, 1910, p. 2225.

12. *Bulletin of Johns Hopkins Hospital*, Aug. 10, 1910, xxi, 235.

surgeon, and as some structures are much more sensitive than others, it is obviously unnecessary to maintain the same degree of relaxation while those parts not sensitive are being handled, as was maintained during the handling of the sensitive parts.

It is important, then, for the anesthetist to know which parts are sensitive, and which are not, and in what order they are to be worked on, by the particular surgeon for whom he is giving the anesthetic, so that an anesthetist must have a general working knowledge of the technic of each operation.

As no two surgeons follow the same identical technic in doing the same operation, it is evident that the best results can be obtained by a long training of the anesthetist with one surgeon, and so he becomes a member of the team.

Not so many years ago, it was considered bad practice for the anesthetist to watch the operation; in fact, some surgeons went so far as to arrange sheets so that he could not see, and many persons were chosen to be trained anesthetists, because of their lack of interest in surgery. This is surely not scientific and cannot give the best results.

Many have considered that a great number of cases makes such a person an authority, but I suspect that a good, bright office boy, who assisted in 12,000 or 15,000 operations, would be something of an authority on surgery, and I do not believe that the surgeons, who recommend these lay persons for anesthetists, would advise the making of a surgeon in the way to which I refer.

If the anesthetist makes any effort to approach the ideal, it is not only necessary that he should watch the operation, but he must also keep track of its different stages, and be just a little ahead of the surgeon, so that the patient will be ready for the rehandling of the sensitive parts by the time the surgeon gets to them.

Take for illustration, a posterior gastro-enterostomy. The patient must be well relaxed to make the incision through the skin dividing the different layers and getting the stomach and bowel up into position to make the anastomosis. While the anastomosis is being made, very little anesthetic is required. It is quite remarkable how little can be given to maintain the narcosis, but there is surely trouble ahead, unless the patient is well relaxed by the time the surgeon is ready to drop the stomach and bowel back into the abdomen and prepare to close the incision, which involves the handling of the peritoneum and skin.

To show the result of training, I might state that I have given 1,028 anesthetics during the last three years. Most of these have been ether anesthetics, by the open method; others have been mixture of gas and ether; and a very few, where we have used ether to produce the narcosis, and chloroform held on a sponge to maintain the narcosis.

Of these 1,028, I have a complete record of 758. The first 100, in which I gave ether, by the open, or drop method, I gave on an average 5.58 ounces to each patient. The last 100, given in the same way, I averaged 4.33 ounces to the patient, a reduction of $1\frac{1}{4}$ ounces to the patient.

I might state, however, that when the first 100 was taken, it included all operations done in Dr. Clifford U. Collins' clinic, but during the last 100 we had got to using nitrous oxid gas for the short operations, which would tend to bring up the average a little in the last hundred cases. In all these cases the ether was measured, and not weighed, and as there are about 10 ounces by measure in a one-half pound can of ether, this would also tend to increase the average over those who calculate ether by weight.

SUMMARY

First: Any anesthetic has its dangers, and the greater the amount used, the greater the danger; therefore, short operations and trained anesthetists are needed.

Second: The anesthetist should have a general working knowledge of the technic of the particular surgeon with whom he is working.

Third: The anesthetist should be a graduate of medicine, familiar with surgical conditions, and having a knowledge of sensitive and non-sensitive structures.

Fourth: The anesthetist should follow each stage of the operation as it proceeds, and vary the anesthetic accordingly.

CLINICAL MANIFESTATIONS OF ARTERIOSCLEROSIS *

A. MERRILL MILLER, M.D.

DANVILLE, ILL.

Arteriosclerosis had not, it seems, come to occupy a place of prominence in the nomenclature of mortuary reports. Its conception as an independent affection has but recently occupied the attention of medical authors, although a vast and rapidly accumulating literature attests an awakened general interest among physicians. There is little doubt that its existence is more frequently overlooked in naming the cause of death than of most pathogenic lesions. The vague indefinite expressions of old age, heart failure, and melancholia must often be without a sound pathology unless this general disease of the vascular system is responsible for death. The swift and terrible consequence of sclerosis often gives scant opportunity for investigation.

Recently the introduction into clinical use of the various forms of blood-pressure apparatus has thrown light on a field heretofore unexplored, and clinical observation has given way to more exact clinical methods, thanks to the physiological laboratory. The fundamental importance of physiologic knowledge in clinical methods is justified when the distinction between internal tension and arterial thickening be based on reasonable standards of comparison in certain forms of vascular disease. In other words, an instrument for determining blood-pressure must occupy the

* Read before the Vermilion County Medical Society, Sept. 11, 1911.

same place of importance as a clinical thermometer in fever. One's thermal sense is as unreliable as a palpating finger, and blood-pressure determination with *records* are considered an essential feature in an accurate comprehensive chart.

There is a feature of high blood-pressure not always apparent; arterial changes are not always evident, e. g., they may be localized in the brain, kidney, uterus, heart, etc., without general evidence of peripheral thickening; again the most palpable evidence of sclerosis may exist without symptoms.

A generation ago clinicians believed almost universally that high blood-pressure was associated with some kidney lesion, and in the negative evidence furnished by the laboratory they still maintained high blood-pressure to be a "pre-albuminuric stage" and calmly awaited the occurrence of albumin. Thanks to Sutton and Gull this narrow conception of disease was lifted from its resting place and made a part of general arterial disease.

The insidious outset of symptoms arising from sclerosis or high tension is likely to present a confusing picture before one is able to hazard a diagnosis; this is especially so since the symptoms are general, rather than specific. To prevent harmful organic changes, with loss of nutrition and subsequent atrophy, we must recognize the presence of *hypertension* at an early date. Particularly is this true since etiologic factors are purely conjectures. The time-honored, long-copied orthodox causes are untenable in view of recent findings in arteries of Egyptian mummies, due to the splendid state of preservation of many specimens. Abundant evidence of arterial disease is present. And the very factors which we have regarded as causes are conspicuous by their absence, e. g., syphilis did not exist in Egypt; they were at least temperate, if not total abstainers, in the use of alcohol; that physical effort was not a characteristic of the Egyptian may be inferred from the historical evidence of slaves. Thus, you see, our most cherished, oft quoted conceits have been snatched from us and thrown into the confused heap of etiologic uncertainties. We do know, however, that men are more affected than women, in the proportion of three to one.

Concerning symptoms, we must be prepared to admit a wide latitude, and interpret each group individually, as it concerns various organs or systems. Apparently contradictory evidence may exist in the same individual. For example, extreme degeneration of larger superficial vessels may exist without marked influence on blood-pressure, while disease of the smaller arteries of the central nervous system may not only increase tension, but render him a very likely subject for apoplexy. There is a growing tendency to attribute transient nervous symptoms to this condition. Thus, you see the determination of a hypertension will, at least, direct our attention to the brain in the absence of causative factors in the kidney, heart, or arteries.

High tension, as measured and recorded by a recognized instrument, is only a factor in the complete general picture, and then only when *continued*. This altered function of the circulatory system frequently precedes secondary changes.

These secondary changes in the heart usually mean a fall in pressure which must *not* be interpreted as evidence of improvement. The gradual closure and disease of the coronaries has enfeebled the heart muscle till it no longer possesses the strength for a powerful contraction.

The presence of an enlarged left heart, tortuous and thickened superficial arteries, scant urine containing a trace of albumin, may constitute the physical findings. These are seldom in association. Add to this transient monoplegia, dizziness, headache, impaired memory with aphasia and the clinical picture becomes very apparent. It is in cases having a neurologic tendency that these symptoms are prominent, but the nervous type of this disease does not constitute its sole manifestation.

The revised pathology of various organs and systems must recognize its importance in a special way. Kidney, cerebral and cardiac symptoms with hypertension must, at an earlier or later date, accompany degeneration of arterial walls and produce structural alteration, sometimes called "secondaries."

Second only to the recognition of the disease, come the methods of relief. The damage already done to vessel walls cannot be cured. The reduction of blood-pressure is the essential feature of treatment. If not an actual reduction as recorded by the pressure gauge, we are called on to prevent an increase, and interdict all habits exciting an acute exacerbation. There is probably no grave disease in which measures non-medical mean so much and medicine so little as the reduction and control of hypertension. As medical directors, we should be constantly watchmen, therapists only where necessity arises. We must have complete intelligent cooperation and surrender from the patient; since most of these cases are in the better families, we may expect such intelligence.

First, avoid worry and hurry. This means a far-reaching control over your patient. Men of vigorous mental habits and accustomed to large enterprises will find this an irksome task, and may decry the apparent inactivity of his medical superintendent. In these cases, medical shopping is a fixed habit.

In the last analysis, alcohol, tobacco and coffee raise blood-pressure, and most individuals have some personal sacrifice to make, for the sense of well being. Unfettered indulgence is not compatible with arterial disease. Dietetic restrictions act more favorably in this than in most other disease in which we, with much gravity, prescribe a diet list. Simple foods in *moderation* spell "comfort" for the overcharged arterial system, and not a few sudden deaths have followed disobedience of this rule. It may appear to be the advent of a second childhood to prescribe a mild, agreeable occupation and simple diet to an active mind, but no rules of therapeutics approach them in control of hypertension.

Being physicians, the laity at least associate the giving of drugs as one of the time honored conventions. They expect "something to take." The iodine salts have from time immemorial been the sheet anchor. The coincidence of relief of hypertension and tertiary syphilis when giving iodids may account for the reversed reasoning in seeking a common cause. To prove beneficial they must be given continuously over weeks and

months. "A therapeutic victory is a daughter of time." Recently, the nitrites, especially of soda, have found favor and will control an excessive elevation of pressure, but this only when associated with a simple manner of living.

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OBSERVATIONS ON THE ENGLEWOOD TYPHOID FEVER EPIDEMIC *

A. G. BOSLER, M.D.

CHICAGO

An epidemic of typhoid fever is always interesting to the physician, especially so to the sanitarian and health officer, and makes itself more than interesting to the victims. This in itself would be ample justification for reporting the very recent epidemic in Englewood, but the lessons to be learned and the fact that we have had very little typhoid in this vicinity within the past twenty years makes the reporting of observations on this epidemic of paramount importance.

The first known case of this epidemic occurred in the practice of Dr. G. J. Hagens, who happened to be out of the city and I was called to see the patient. This was on June 8, 1911. The symptoms were those of an acute rheumatic affair and the case was at first thought to be such. The true nature was suspected, a Widal sent in on the sixth day and the case reported as typhoid. I could have reported this case as a strongly suspected case of typhoid several days previous, but not wishing to unnecessarily alarm the family, inasmuch as their regular physician was out of town, I deferred reporting same until a positive Widal was obtained. The reporting of this first case was a very important part in checking the epidemic, which in a short space of time assumed alarming proportions.

To the credit of our efficient health department let me say that within two days after reporting this case the milk dealer, who had not been pasteurizing his milk, was ordered to do so. His place was closed for a few days, pasteurization was done and he resumed business. Within the next ten days I reported several more typhoids in my immediate neighborhood, all of whom were taking milk from this dealer. He was promptly closed and a vigorous investigation instituted by our department of health.

I cannot too highly commend the work done by the health officers in tracing the source of the infection and adopting means to prevent further dissemination. To their efficient work can be credited the stamping out of what was perhaps the worst epidemic of typhoid fever Englewood has ever known; some idea of which may be obtained when I state that within a stone's throw of my home we had twenty-two cases and in all some eighty cases, with eight deaths. What might have occurred had this milk dealer been allowed to sell milk even a few days longer will never be known.

* Read at the opening meeting of the Englewood Branch of the Chicago Medical Society, Oct. 3, 1911.

The source of the infection was found to be milk from the now extinct Yale Dairy, 710 West Sixty-First Street. This was operated by two Hollanders, Ostema & Rozema, and they received their milk from the Borsema farm, One Hundred and Eleventh Street and Kedzie Avenue. The health department made examinations of the excreta of all members of the Yale Dairy Company and no typhoid was found, neither did any of them give a positive Widal. They then examined all persons connected with the farm and found typhoid germs in the urine of Rosie Pell, grand-daughter of Borsema. Rosie also gave a positive Widal. She had been washing the milk cans. Further investigation proved that Rosie had had typhoid some three years ago; that she was a typhoid carrier of the intermittent type, having a chronic cystitis. In this connection it may be well to state that three years ago an epidemic of typhoid in West Pullman was traced to this same farm at which time Rosie had the disease. In that epidemic, as in this, the milk man's route could be traced by the cases of typhoid.

The first examination of Rosie was made on June 27, 1911, with positive results. She was taken from the farm and for a time placed in the county hospital. Urotropin was administered and examinations made during the month of July were negative. On August 1, urotropin was discontinued and on August 5, she was again found to be positive. She was taken in hand by the state officers, placed on vaccine treatments, and up to date of September 19, she has been negative. During this time she has been examined once a week.

While the work done by our health department has been thorough and shows conclusively that the infection originated on the Borsema farm the state officers appear to think otherwise; they believing that the infection occurred at the dairy. That the state is in error seems very clear, as the facts are so convincing that one wonders that there could be any doubt. The state believes that the first case originated in the Yale Dairy, that the milk was there infected and that Rosie had nothing to do with it, arguing that if she was a carrier in June, 1911, she has been a carrier ever since she had typhoid three years ago. Undoubtedly she has been a carrier ever since having the disease but of the intermittent type. During these three years part of the time she has been in Wisconsin, part of the time she is positive and at other times free from germs, part of the time she washed milk cans and at others not and the following facts will bear out the conclusion that she washed cans while she was positive and that the cans were washed in such a way that they became infected.

To show that the infection did not originate in the Yale Dairy let me say that the first case of typhoid connected with the dairy, Mrs. Ostema, was taken sick on June 24, and that on June 29, Mr. Rozema was taken ill. The first case from Yale milk was taken ill on or before June 8; also before June 24 I personally had three or four other cases, to say nothing of the cases of other physicians. The records will show many cases antedating those of members of the Yale Dairy. Further the examinations of excreta of members of the Yale Dairy previous to June 20, showed them all negative, while the examinations of those con-

nected with the farm showed that Rosie was a carrier. I never heard of an epidemic of typhoid traced more directly, and these facts should prove beyond any doubt that the infection originated with milk contaminated by Rosie.

The health department records show seventy-nine cases, sixty-three of which had milk from the Yale Dairy. I have obtained the records of seventy-eight cases, the majority of which were treated by Drs. R. L. Van Dellen, G. J. Hagens and myself. I desire to give due credit and to express my thanks and appreciation to Drs. Hagens and Van Dellen, also to the other physicians who so kindly gave me information regarding their cases; also to Dr. H. Strass, senior intern of the Englewood Hospital, to whom I am greatly indebted for information regarding the hospital cases.

Altogether I have the records of seventy-eight cases. Careful investigation proves that sixty-eight of these had milk from the Yale Dairy (87 per cent.). Sixty-eight of them gave positive Widal (87 + per cent.). This percentage would have been higher but for the fact that in many cases only one Widal was sent in, and in at least one case no Widal was made. In only one case was a Widal persistently negative. Rose spots were present in seventy-five cases or 96 + per cent. Enlarged spleen in fifty-eight cases or 73 per cent. Relapses occurred in five, or 6 + per cent. There were fifty-three adults, seven of whom died, giving a mortality rate of 13.2 per cent. There were twenty-five children under 16 years, one dying, a rate of 4 per cent. Thirty-one were treated in the hospital, with four deaths, a rate of 12.9 per cent. Forty-seven were treated at home with four deaths, a rate of 8.5 + per cent. Of the total cases eight died, giving a mortality rate of 10.2 per cent. Hemorrhages occurred in nine cases, all adults, or 11.5 per cent., three of the nine proving fatal, or 33.3 per cent. One hemorrhage was as severe as the worst post-partum I have ever seen. One case had had a normal temperature for over fourteen days, left the hospital and then had a hemorrhage. Two had perforations, or 2.5 per cent. One was operated on within twelve hours by Dr. C. F. Weir. One perforation was found which was closed and the patient recovered. The other perforation, who was the first case of the epidemic, had suffered a relapse. He was in a semi-unconscious condition and the usual symptoms of perforation were lacking and when seen by the attending physician was in a condition of collapse. He died. There were thirty-seven males and forty-one females, three of whom were pregnant at the time of contracting the disease. One aborted at four months. One was about seven months along and has since been delivered of a healthy child. A Widal was made of this baby and proved to be negative. The other case was six months along and is now progressing nicely to full term. The youngest patient was 15 months and recovered, the oldest was 64 years and died with heart complications.

Two nurses contracted the disease while caring for their patients. Both cases occurred at homes. One nurse, while giving an enema, had the misfortune of having bowel contents thrown in her face and even mouth. She promptly came down with the disease. Of over thirty cases

treated in the Englewood Hospital during the epidemic, and a dozen or so since, not a nurse nor intern has contracted the disease. This is worthy of special mention and speaks very highly for the efficient and careful management.

The lessons to be learned from this epidemic are:

1. The great importance of reporting any isolated case of typhoid fever and the prompt investigation by the health authorities. The case at hand may be the forerunner of an epidemic. The neglect on the part of the physician of reporting typhoid is a crime and should carry a heavy penalty. Read the following extract from a letter received this morning from the health officer of Salem, Ohio, and you will agree with me that the physician who failed to report the case because he would injure his patient's business was nothing short of a criminal.

Extract from letter of Dr. E. J. Schwartz, Health Officer, Salem, Ohio.:

Salem is a city of less than 10,000. Our typhoid cases are usually sporadic, as our public water-supply is considered by state tests to be second to none. In late summer and fall of 1909 I found I was having two or three cases per family, and other doctors likewise, of conditions very much resembling typhoid. For eight to ten days was receiving reports of six and seven a day until we had sixty-six cases. In attempting to find the origin, I was puzzled at first, as all the cases were in one section of the city. Investigating in my families, I found they were all buying from one dairyman, which led me to inquire into the other cases, to find that fifty-eight of sixty-six cases were using milk from this dairyman. I proceeded to the dairy and found the dairyman's wife sick with what I pronounced typhoid, but her attending physician had called it malaria. He afterward admitted he had purposely kept it quiet to protect the man's business.

I ordered the dairyman to cease business at once until the matter could be thoroughly investigated, with the result that we had no more typhoid.

One feature about the investigation that puzzled me was why families using bottled milk became infected, while those using milk from large cans did not.

I had the well water on the farm analyzed and found the source of our trouble. On inquiry I found that they cleaned both bottles and cans by steam, but that glass bottles held heat so long that they immersed them in cold water to cool. Thus I had the solution why the bottles became infected while the cans did not, for they immediately filled the bottles and enough germ-laden water adhered to the bottles to quickly infect fresh milk.

2. A stricter watch should be kept on those recovering from the disease and if any carriers are found they should be considered a menace to the community, should be placed where they cannot do harm and treated. This may appear a little far fetched, but let me state that ten years ago, while teaching preventive medicine, I advocated and held that the proper time to lift the quarantine in diphtheria cases was when the throat was free from germs. The idea was ridiculed by some; others, more kindly disposed, said it was impracticable. To-day this is our guiding rule. I expect to hear the same comments on this suggestion, but the wisdom and absolute necessity of greater care in patients recovering from typhoid stands out as a crying need, so vividly portrayed by this epidemic, and the quicker we adopt means to ascertain carriers and treat them as such the quicker will we stop epidemics of this disease. Personally I have been in the habit of putting my typhoids on urotropin and

keeping them on it for over a month after recovery, also of warning them of the danger of infecting others.

These two lessons stand out preeminently in this epidemic. We have paid the price with eight lives and the suffering of scores. The question is, will we collect the reward — *have we learned the lessons?*

TABULATED RECORD OF ENGLEWOOD TYPHOID EPIDEMIC

Total cases	78	
Milk from Yale Dairy.....	68; 87	+ per cent.
Widal's positive	68; 87	+ per cent.
Rose spots	75; 96	+ per cent.
Enlarged spleen	57; 73	per cent.
Hemorrhages (all adults, 3 fatal).....	9; 11.5	per cent.
Perforations (1 operated on and recovered)....	2; 2.6	per cent.
Relapse	5; 6	+ per cent.
Adults (7 died, rate 13.2 per cent.).....	53	
Children under 16 (1 died, rate 4 per cent.).....	25	
Males	37	
Females (3 pregnant, 1 aborted).....	41	
Treated in hospital (4 died, rate 12.9 + per cent.).....	31.	
Treated at home (4 died, rate 8.5 + per cent.).....	47	
Total deaths (rate 10.2 per cent.).....	8	
Nurses contracting disease from patients (both at home).....	2	

A NEW TONSIL HEMOSTAT: ITS ROUTINE USE IN TONSILLECTOMY

A. M. CORWIN, M.D.
CHICAGO

Hemorrhage during and after tonsil operations has been a potent source of danger, and therefore of fear in the mind of the average doctor. Such hemorrhage has been frequent enough after partial removal by a tonsillotome or other instruments, as practiced in former times and as still practiced, particularly in Europe. This fear has bred in physicians undue conservatism, to the harm of the people, for hundreds of patients have been treated by local or internal medication, or not treated at all, where removal of the offending glands was clearly indicated to prevent local regional or systemic trouble.

Complete removal, excision, enucleation, tonsillectomy, as distinguished from tonsillotomy, is a very old procedure, dating from the first century, but it never became popular, very likely because of the bleeding involved, so awkward to control, and because there was greater chance of serious infection prior to the usages of modern asepsis. Such infections are uncomfortably occasional even with the most approved methods of to-day. America has revived the operation of enucleation and is perfecting its technic under the leadership of laryngologists who have recently pointed out the numerous definite and urgent indications for excision of the tonsil with its capsule in place of the time-honored but often ineffective operation of tonsillotomy. So wide is the demand for excision *in toto* and so clearly are the many indications for it coming to

be understood by general practitioners, that the intelligent laity are not far behind in appreciating the paramount need of radical measures.

Complete removal of the tonsils by one of several methods is therefore growing rapidly in popular favor and frequency. It follows that hemorrhages from this source will increase in number. Any instrumentation and technic, therefore, which will lessen danger and promote clean, quick work, will benefit all concerned. It is with this in view that I offer a few brief suggestions in connection with a new tonsil hemostat for routine use.

After trying for years various anesthetics, operative positions, instruments and technic, the following procedure is found most simple and satisfactory:

The patient, properly prepared, is operated on in a hospital or with hospital facilities at hand in order that for twenty-four hours or longer, if necessary, he may be under trained supervision.

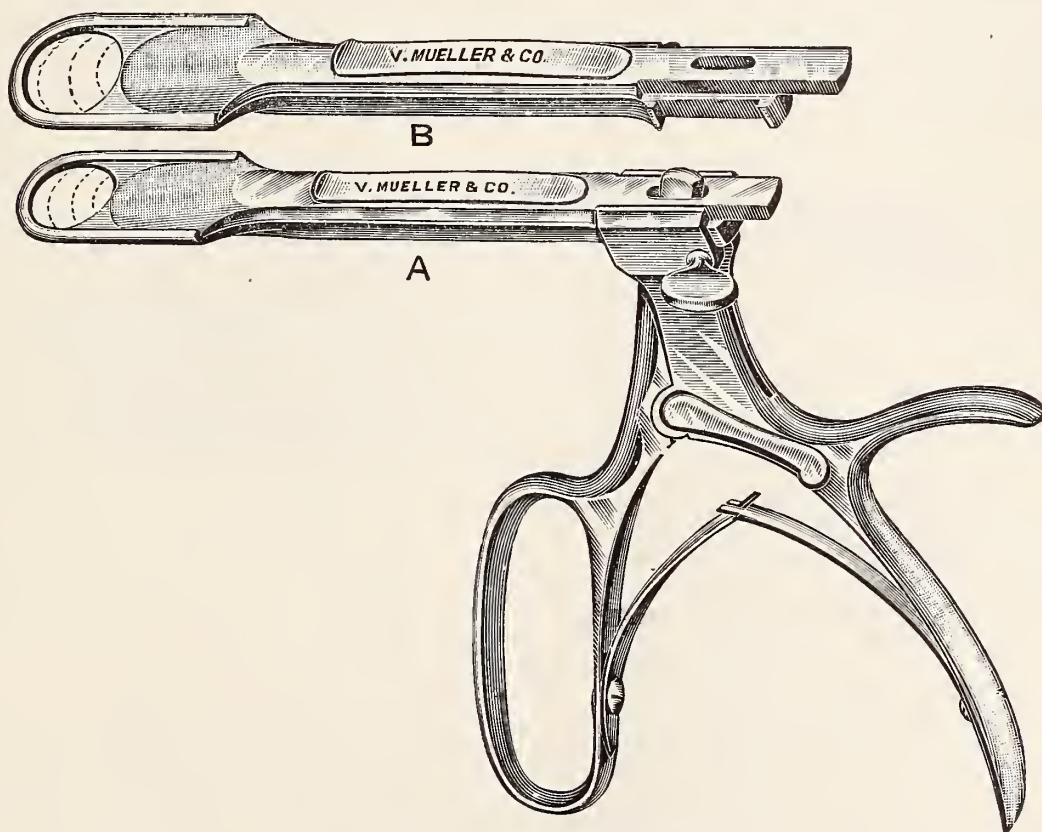


Fig. 1.—Sluder guillotine.

Position: Recumbency upon the back.

Anesthesia: By gas and oxygen, with or without a trace of ether, administered through the nose, unless this is impossible, and by an expert in the use of the Teter apparatus. This obviates all anxiety from the anesthetic, and the patient's head is under perfect control.

Whitehead Gag: Commended because it is not in the way, never slips or fails to act, and is quick in adjustment.

Electric Headlight or reflected light from head-mirror, if electricity is not available.

Sluder Guillotine (Dr. Greenfield Sluder, of St. Louis): Illustrated in the accompanying cut. Its use was well-described by him in *The Journal A. M. A.*, March 25, 1911. This instrument, when properly

used, will in the vast majority of cases quickly enucleate the tonsil with its capsule, no matter how small or buried.

While good work can be and is being done with the use of knives, scissors and snares, with or without more or less dissection by finger or other blunt object, all these methods require more time than the one mentioned, and necessitate working in a bloody field. With the Sluder guillotine the tonsil is scooped up from below and behind by judicious pressure outward and upward and forward against the angle of the jaw, the shaft of this instrument being directed across the throat from the opposite angle of the mouth. The tonsil is pushed through the fenestrum by pressure of a finger on the anterior pillar, beneath which is the bulging gland, and the blade is sent home along the posterior margin of the anterior pillar under the eye of the operator without injury to that muscle. The tonsil is then freed from its lingering attachment to membranous threads by a sweep of the index finger inserted behind it as it projects from the under-surface of the instrument (the surface toward the handle), through the fenestrum of which it has been forced and cut off. The blade, when properly handled, follows the line of areolar attach-

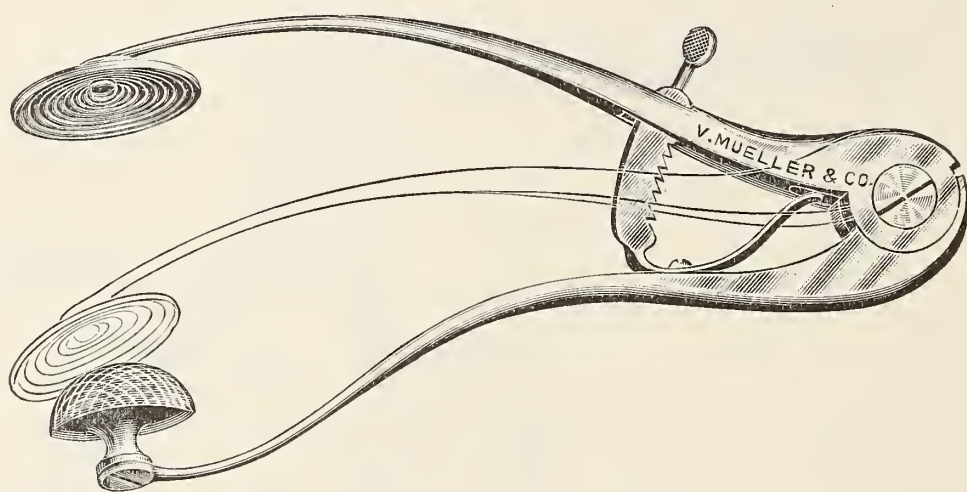


Fig. 2.—Corwin's tonsil hemostat.

ment between the tonsillar capsule and the surrounding muscles and the offending body is enucleated. The free rush of blood which invariably occurs as the tonsil is freed from its bed is controlled at once by inserting the tonsil hemostat shown in the accompanying cut. Several layers of gauze have been attached to the bulbous extremity of the inner arm. The spring ratchet makes adjustment as easy for removal as for inserting the instrument. The second tonsil is now removed with a practically bloodless field, and when both hemostats are in place excision of the adenoids is not interfered with, because the tonsil hemostats are formed to follow the buccal curve. Pressure in the post-nasal region at the former site of the adenoid is easily made, if need be, by a bit of gauze held in the grasp of a curved tonsil vulsellum, the shaft of which is slender and its bite small.

Removal of the tonsil hemostats one at a time makes further control of faucial bleeding relatively easy by the use of ordinary hemostatic forceps for torsion or ligation where such measures are needful. However, in the common run of cases, especially in children on whom the triple

operation is so frequent, the hemostatic pressure, for a few seconds, as described, is sufficient to control and prevent undue bleeding. The whole procedure takes but a few moments, the recovery from the gas is speedy, and the loss of blood much less than when hemostats are not used in pairs in this routine manner.

15 East Washington Street.

WHAT THE GENERAL PRACTITIONER SHOULD KNOW ABOUT THE EYE *

E. C. SPITZE, M.D.

EDWARDSVILLE, ILL.

It is quite impossible in a single paper of this kind to tell all that the general practitioner should know about the eye, nor will I attempt to bring anything new on the subject but will simply call your attention to a few of the most important points.

The opportunities for training in ophthalmology during the usual medical course are somewhat limited and the student's time is so much taken up with other branches of medicine that the graduate gains only an elementary knowledge of the diseases of the eye. However, if he will apply such knowledge intelligently and add to it from time to time by study and observation he will soon be able to diagnose the simple affections and differentiate these from the more serious.

At the last meeting of the American Medical Association, at Los Angeles, this defect in our present-day curriculum was discussed at length and resolutions passed to establish in all our leading universities a postgraduate course of one year on ophthalmology. While the object of this is primarily to lead to the title of Doctor of Ophthalmology, yet it will give all graduates in medicine an excellent opportunity to gain a better knowledge of the diseases of the eye.

Some physicians may think that even an elementary knowledge of the eye is not essential inasmuch as they refer all cases of eye complaints to the specialist, thereby shifting the responsibility. However, when we consider that 10 per cent. of all blindness in the United States is caused by ophthalmia neonatorum, a disease generally first seen and treated by the general practitioner, and that 50 per cent. of all glaucoma cases come to the oculist too late for the restoration of useful vision, this attitude is to be deplored.

One of the most important aids in the diagnosis of all conditions of the eye is the use of test letters. This at once brings out a very important point, namely the vision. With the ordinary Snellen or other test card hung at 15 or 20 feet the vision of each eye is taken separately and a note made of it for future reference.

* Read before the Madison County Medical Society, at Granite City, Ill., Aug. 4, 1911.

Patients who use glasses for distant vision should be examined wearing the glasses. When an eye is found defective the cause of such defect should be definitely determined either by the physician or when necessary by an oculist. Such cases should not be allowed to fall into the hands of opticians and "spectacle vendors."

Patients often come to us in whom we find defective vision in one eye of which they had no previous knowledge, or knowing it, have continued without the proper correcting lenses and thus have lost the use of a most valuable organ. Most of these cases are due to a high grade of refractive error such as hypermetropia, or myopia, either alone or combined with astigmatism or to a high grade of astigmatism, which if properly corrected in childhood would have retained good use of such an eye; whereas, even though they are given a proper correcting lens in later life, they are unable to use the same because the eyes will not adapt themselves to the new condition.

A practical use of the ophthalmoscope can be acquired by almost any physician after repeated trials. While the finer distinctions of the fundus may escape him, gross lesions such as albuminuric or diabetic retinitis, hemorrhages, cataract, detached retina, tumors, choked disk and floating particles in the vitreous could be diagnosed with some degree of accuracy.

The external examination of the eye is not so difficult because of its accessibility. Such an examination is greatly facilitated by the use of a magnifying lens, preferably of about $2\frac{1}{2}$ inches focus, 16 D., which can also be used for concentrating the light.

The examination of discharges from the eyes with a microscope is a great aid and very important in diagnosing and differentiating the various forms of conjunctivitis, abscesses and ulcers.

Carefully observing the size, shape, color and reaction of the pupils and the color of the iris will often lead to a diagnosis. Inequality of pupils may indicate a specific infection, a hemorrhage, abscess, exudate or tumor of the brain or an injury to the skull.

With both pupils dilated one would think of glaucoma, or disease of the chorioid or retina, or the use of such drugs as cocain, atropin or morphin, either locally or internally. In iritis the iris is of a darker brown than its mate, or a muddy color.

Every physician should know how to take the tension of an eye. This is a simple proceeding and with a little practice one can soon make out a difference in tension when it exists. Placing the two index fingers on opposite sides of the globe above, with the patient looking downward, you exert a gentle pressure. By trying the two eyes alternately several times and comparing carefully one can learn to recognize any increase in the tension. This is an important early sign in glaucoma.

In making a diagnosis here as with other organs of the body one should have in mind first the more common diseases. Among these are the various forms of conjunctivitis, which for convenience can be divided into two main classes, viz., simple and serious.

Simple conjunctivitis, usually due to the staphylococcus or xerosis bacillus, can be cured by the use of some mild collyrium. This is to be

differentiated mainly from mild forms of beginning iritis, inflammatory glaucoma, episcleritis and a congestion due to eye strain. A somewhat severer form is an acute mucopurulent conjunctivitis, the so-called "pink-eye," due to the Koch-Weeks bacillus. This is usually epidemic in the spring and fall months and is contagious. These cases should be advised to use separate towels, wash basins and handkerchiefs.

For one form of conjunctivitis, that due to the diplobacillus of Morax-Axenfeld, we have practically a specific in the zinc salts. The diagnosis is made by finding this diplobacillus with the microscope.

The serious forms are those due to the gonococcus, pneumococcus, streptococcus and diphtheria bacillus. The clinical appearance of these is usually very striking. The eyelids are swollen, discharge profuse, pain and lacrimation and photophobia intense. The most common form of gonorrheal infection is ophthalmia neonatorum. This usually develops in three to six days after birth but may be latent and develop in three weeks to two months later. Such cases have been reported. In children and adults a history of exposure will aid in the diagnosis, but in all cases only the microscopic finding of the gonococcus is final. These cases demand the most intelligent and energetic treatment from the start and unless there is immediate improvement should be placed in the care of the specialist.

Foreign bodies on the cornea should be at once removed with a foreign body spud, by the aid of a good magnifying lens and good light. A few drops of a 2 to 4 per cent. cocain solution, or better still a 1 per cent. holocain, or 2 to 4 per cent. alypin solution. The last two named do not attack the cornea or dilate the pupil. The use of cocain in an eye does soften the corneal epithelium and at times causes a denudation which is very uncomfortable to the patient.

The eye should be cleansed with an antiseptic solution, and a light dressing applied, preferably a little cotton or a few layers of gauze held in place by narrow adhesive strips. Wet packs soon become warm and cause much congestion, favoring the propagation of bacteria in the conjunctival sac.

Foreign bodies within the eye-ball can be located with the ophthalmoscope or the x-ray and removed with a giant magnet or other instruments. This should be done as soon after the injury as possible, preferably on the same day, as they can then often be removed through the original wound and are not held by the formation of clots and exudates. Also the eye then has a better chance for recovery. Glass and wood within the eye-ball are very difficult to locate and often are found only after the eye is enucleated.

In perforating injuries of the cornea when the iris is prolapsed or caught in the wound a free iridectomy should be done at once. This hastens recovery and the eye is less liable to become inflamed in later years.

Even text books differ in distinguishing between chalazion and hordeolum or sty. With a sty the onset is usually more acute, pain, swelling and inflammation more marked and the location more superficial, usually in a hair follicle or sebaceous gland of the skin. A sty is a boil on the eyelid.

Chalazia develop more slowly, and the symptoms are less severe; at times no discomfort at all excepting the presence of the tumor. They are nearly always situated deeply in the lid and show a discoloration of the conjunctiva opposite their center. They are located in a Meibomian gland within the cartilage of the lid and usually remain as a small round tumor after the inflammation and swelling have subsided. They may be dissected out or incised and curetted, the incision always being made on the conjunctival surface of the lid, never on the dermal surface, as then there will remain no visible scar to mar or distort the eyelid.

A styne may be incised at its yellowish discolored tip and the contents expressed by pressure. Hot applications and ointments may be applied to hasten the process of disintegration, rupture and discharge.

Among the diseases with which the general practitioner comes in contact and which may be complicated with eye affections are syphilis, tuberculosis, rheumatism, diabetes, Bright's disease and gonorrhea. The lesions so caused are generally serious and affect the internal and vital parts of the eye. Treatment of these complications should be both local and systemic. The Von Pirquet test, easily applied and interpreted, is of great value in disclosing the presence of tuberculosis especially in children. The use of tuberculin carefully watched is of great value in these cases and often the lesions rapidly fade away after a few injections. While salvarsan has been used but a short time, it promises to be a great benefit in cases where syphilis is the causative factor. Rheumatism is often the cause of iritis, which improves rapidly with the use of the salicylates.

Diabetes and Bright's disease are often first diagnosed by the use of the ophthalmoscope and appropriate treatment early begun generally prevents further progress of the retinal lesions. It is these cases which often go from optician to optician seeking a correction of their supposed error of refraction when it is proper diet and treatment of the kidneys that they need.

The differential diagnosis between glaucoma and iritis, and the great danger to vision by the wrong treatment of such, is one on which great emphasis is placed by most of our text-books and impressed time and again on the mind of the student. The result is that often the graduate leaves school with a poor idea of symptomatology of these important diseases, but a vivid one of the dire results which will follow improper treatment of the same. It is not uncommon for a general practitioner to bring in a patient with the statement that he is afraid to use anything in the eye for fear the patient had glaucoma, often when they have no symptoms of it; and one wonders how they could have been so misled. If one remembers the salient points of difference, and they are about as marked as the difference in treatment, one should have little trouble in making a diagnosis.

Inflammatory glaucoma is caused by some interference in the intra-ocular exchange of fluids of the eye so that they are retained and the tension of the eye greatly increased. This brings on an inflammation with eventual destruction of the retina and vision. The pupil of the

eye has a greenish appearance from which the disease derives its name, the pupil is dilated and the cornea hazy, or to use the classic illustration, like glass breathed on. The tension is increased and the patient complains of great pain, or neuralgia as they call it, which often amounts to hemicrania.

In iritis the pupil is contracted, the cornea clear with considerable circumcorneal injection, severe and marked photophobia (fear of light). Luckily for both these dreaded diseases we have specifics which if used early and promptly will alleviate the trouble and restore the eye to almost its normal condition. I refer to atropin in the treatment of iritis and eserine in glaucoma. In iritis it is of the greatest importance to secure at once and maintain complete dilation of the pupil. Once the iris becomes adherent to the lens the case is complicated, harder to manage, and when the adhesions remain the pupil may become entirely occluded with exudates. Such an eye has very poor or no vision and may at any time become inflamed and a source of danger to the good eye. None but a well-trained and experienced oculist should attempt to treat a case of glaucoma.

The great majority of patients suffering from frequent headaches have errors of refraction and lack proper lenses to correct the same. The mere fact that the patient is wearing glasses does not denote that they are correct and that such trouble may be excluded. Glasses given by the optician are almost invariably wrong, especially those given for close work. In some cases the changes in refraction are rapid and a slight change in the glasses even, when given by competent oculists, will give great relief to the patient. It is the physician's duty to exclude errors of refraction before giving analgesics and depressants which give but momentary relief and which soon lose their efficacy unless frequently repeated.

Improper balance of the ocular muscles is a most fruitful source of headaches. Nothing in the practice of ophthalmology is so difficult as the detection and proper correction of these latent deviations. However, when this is done it is not unusual for the headaches to cease and a feeling of comfort prevail which the patient had not experienced for years.

A good oculist should be able to differentiate between headaches due to errors in refraction and those due to inflammation of the accessory nasal sinuses. These are often productive of headaches, especially in the mid-frontal region, and are generally worse in the morning, the secretions collecting during the night causing the pain and headache by pressure. Tenderness can generally be elicited by pressure at the inner angles of the orbit and the patient will complain of a feeling of fulness in this region. Treatment by the rhinologist is often productive of results little short of marvelous, and the ocular symptoms vanish.

Not less interesting, because of an every day occurrence, are the changes of the eye under normal conditions caused by old age and therefore called presbyopia (*presbys*, Greek = the old man, and *opia* = the faculty of seeing) the agesightedness. As aging is a matter of climate it varies with every country you live in. The presbyopia is earlier in

the far South, in the Philippines as early as the 30th year, in our climate (I mean the latitude of Missouri and Illinois), the 37th year is the beginning of it. The farther north we go the later the agesightedness appears, but the 42d year is the latest time of its beginning. Women who have borne many children, in whom the climacterium sets in early, need the help of a glass for close work earlier than others, sometimes as early as the 32d year. Frequent attacks of systemic diseases, like chronic rheumatism, cases of nephritis and diabetes lose so much of their faculty of accommodation that the early use of spectacles in a man is nearly always indicative of disease, anyway of a lowered vitality. The necessity of frequent change and demand for stronger lenses is very suspicious and regularly occurs in glaucoma or pressure increase of the eye. The necessity exists of increasing the strength of the lens about every two years normally until the 57th year is reached, then about every three years up to the seventies.

If you hear frequent complaints of headaches or find a child not interested in books and pictures, rather reluctant to go to school and averse to reading evenings, be sure to suspect some deficiency in the eyesight. First get the history of the child, whether it had an inflammation of the eye in early childhood or any kind of lid trouble, because in nearly every case of red and inflamed lids the refraction and the general nourishment are at fault. Then see if it can read letters 20 feet away, covering one eye and then the other. If it cannot see one-half inch letters at that distance, send the child for examination to a competent oculist, because it is either nearsighted or very farsighted, possibly astigmatic. Nearsight (myopia), is due to an excessive length of the eye-ball, mostly inherited and often increased by close work or playing with too small toys, very frequently to the early use of needle and fine thread and the stooping position of all that sew. Farsight (hypermetropia), is caused by an abnormally short and flat globe and is distinguished by rapid tiring of the eye in near work. It is the cause of frequent headaches in the young and middle-aged and cannot be remedied by anything else than the correct lenses. Nationality plays its part in the production of myopia. The reason that some countries, for instance Germany, have had so much myopia, is on account of the want of proper glasses for hypermetropia and hypermetropic astigmatism. This condition is now happily fast decreasing as the result of scientific investigation and sanitary regulation, together with proper correction. In this country the condition has in quite a number of cases been caught in the very beginning stage of the error, mixed astigmatism, and checked by the use of proper glasses.

Here I want to mention a point which is not generally appreciated by the general practitioner, namely, that nine-tenths of all cross-eyed children and adults are far-sighted, so that early use of proper glasses will cure strabismus and will do away with the necessity of an operation. Operations for strabismus are often unnecessary, because in childhood strabismus is curable with lenses, and even up to the 24th year it will yield to treatment and glasses in some cases. The sad part about neglected cases of cross-eye is the loss of vision in the crossing eye and only

the retraining of the eye to receive pictures on the retina and use them can cure the strabismus. Early treatment, as glasses can be worn from the first year without any danger, is of the greatest importance.

Vision is often lost or impaired by the entrance of toxic substances into the system. Among these may be mentioned wood alcohol, quinin, tobacco, carbon sulphid, lead, arsenic, iodine, salicylates, ergot, male fern, phosphorus and nitrous oxid gas. Such a condition is termed amblyopia or amaurosis and is characterized by a retinitis and optic neuritis or atrophy. These patients usually have a spot in the center of fixation which is blind to colors. Most of the above-named toxics do not cause permanent injury to the sight if further ingestion is stopped. However, lead, quinin and wood alcohol do at times produce permanent changes which greatly affect the acuity of vision.

A prominent oculist reports the case of a woman who had amblyopia after taking 12 grains of quinin. This is the exception, for a very small percentage of those who take quinin, even in large doses, are so affected. The hypodermatic or internal use of strychnin is indicated in most all of these cases of amblyopia. In quinin amblyopia the field of vision often remains much contracted even though the vision is almost normal.

The eyes often become involved during the various exanthemata and infectious diseases. In diphtheria you may have an accompanying conjunctivitis due to the diphtheria bacillus or what is more common, a paralysis of accommodation, so that the child cannot see near objects distinctly. Strychnin is indicated. Some few cases that are slow to recover and must use their eyes may be given glasses temporarily. In measles, scarlet fever and small-pox a keratitis may develop so that it is important in all these cases to watch the eyes and inquire as to the vision. Patients who pass through a long siege of illness often have "weak eyes." Most of them recover good use of their eyes as their normal strength returns. Some need general tonics and stimulant treatment of the eyes and even glasses for a time.

BOVINE AND HUMAN TUBERCULOSIS

In the interest of children, who are especially in danger, and in the interests of sanitation in general, the standing rule for the inspection of milk and meat cannot be safely relaxed; on the contrary, precautions should be carried out which should bring better results in the protection against transferring tuberculosis by animal products, than have heretofore been enforced.

The commission speaks out plainly its belief that the prevention of the transfer of bovine tuberculosis with the milk would appreciably reduce the number of cases of tuberculosis of the abdominal organs, and of the glands of the neck in children, and for this purpose the sale of milk of any known tuberculous cow should be forbidden, no matter whether the disease has its location in the udder or in the interior organs.

This commission was appointed to inquire into the relation of human and animal tuberculosis. The report is dated London, 1911.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY

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NOVEMBER, 1911

REORGANIZATION OF THE ILLINOIS STATE BOARD OF HEALTH

Vague rumors of the reorganization of the Illinois State Board of Health came to a conclusion on November 1st, when Governor Charles S. Deneen, in a statement made to the editor of the *Springfield State Journal*, acknowledged that four members of the Board, to-wit: Doctors Wessel, of Moline; Richings, of Rockford; Schussler, of Orland; and Webster, of Chicago, had submitted their resignations.

The following statement of a conversation between the editor of the *Springfield Daily Journal* and Governor Deneen will give our readers the status of affairs the day we go to press. The whole matter was brought to a focus by the action of the District Medical Society, which held its meeting at Pana, October 31st. Dr. F. Buckmaster, of Effingham, offered the following preamble and resolution which were adopted without a dissenting voice, and no defense of Secretary Egan was voiced by any one present.

“WHEREAS, It has come to our knowledge that Governor Deneen has commenced the renovation of the medical department of the state government; therefore be it

“*Resolved*, That he be congratulated in this matter and urged to complete the renovation at the earliest possible moment.”

“Governor Deneen stated last night in response to inquiries, that the retirement of four members of the state board of health is due to

expiration of their official terms. [This does not quite correspond with the statement made by one of the retiring members.] During the entire period of Governor Deneen's incumbency there has been incessant agitation over the personnel of the state board of health, resulting in many disagreeable situations. In order to relieve the administration of further embarrassment the governor admitted he has decided to appoint a new board of health. He expressed hope that the new appointees, when selected, may meet approval of the medical profession and create a better feeling between its members and the state board.

"Governor Deneen said that he is giving careful attention to the choice of the new members, and finds it somewhat difficult to make satisfactory selections. This is principally due to the fact that he is anxious to appoint a more progressive board and finds himself hampered by the fact that so many desirable physicians are included in the staffs of medical institutions.

"Objections are urged against faculty representation of medical colleges upon the state board of health, and many representatives of the profession who otherwise would be considered for appointment are rendered ineligible by their college connections.

"It is anticipated that the governor will announce the make-up of the new board at an early date, but he said last night that he has not reached final decision as yet in regard to any of the positions to be filled.

"It is the hope of the professional enemies of the board's secretary that reorganization of the state board of health will result in the selection of a successor to Dr. James A. Egan of this city. Governor Deneen was not willing to discuss the prospect in regard to this situation.

"Recent developments place the office of secretary of the board under civil service protection, and it is regarded doubtful that the new board will be able to dispense with Doctor Egan's service in any other way than is provided by the civil service act, which requires the filing of charges as a basis for removal."

Charges as a basis for removal against Dr. Egan will undoubtedly be filed if the civil service act is declared valid.

MOVEMENT FOR THE IMPROVEMENT OF MEDICAL EDUCATION

Thursday, October 19, there was held at the LaSalle Hotel in Chicago a meeting called by the Chairman of the Council, Carl E. Black; Chairman of Legislative Committee, L. C. Taylor; and Chairman of the Committee on Medical Education, E. Mammen. To this meeting were invited the following gentlemen:

DISTRICT 1

Councilor J. H. Stealy.....	Freeport
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T. H. Wagner.....	Joliet
O. J. Flint.....	Princeton
W. O. Ensign.....	Rutland

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A. D. Black.....	Chicago
H. B. Hemenway.....	Evanston
D. W. Graham.....	Chicago
H. E. Irish.....	Chicago
F. P. Piernat.....	Chicago
J. V. Fowler.....	Chicago
W. S. Pickard.....	Maywood
Clarence Earle	DesPlaines
R. C. Silberton.....	Pullman
Don Harvey	Chicago
Bismark Von Wedelstaedt.....	Chicago
J. R. Ballinger.....	Chicago
Carl Beck	Chicago
H. R. Boettcher.....	Chicago
C. A. Buswell.....	Chicago
W. D. Robbins.....	Chicago
S. T. Flemlee.....	Chicago
Henry Faville	Chicago
Charles Elliot	Chicago
Robert Preble	Chicago
A. R. Edwards.....	Chicago
S. Leisler	Chicago
H. T. Patrick.....	Chicago
E. C. Dudley.....	Chicago
E. W. Andrews.....	Chicago
Joseph DeLee	Chicago
John G. Wilson.....	Chicago
Frank Billings	Chicago
A. D. Bevan.....	Chicago
Bertram Sippy	Chicago
E. W. Ryerson.....	Chicago
Ludvig Hektoen	Chicago
H. G. Anthony.....	Chicago
J. A. Capps.....	Chicago
George Shambaugh	Chicago
E. F. Ingalls.....	Chicago
J. M. Dodson.....	Chicago
Isaac Abt	Chicago
M. Goodkind	Chicago
D. Eisendrath	Chicago
C. Davidson	Chicago

W. E. Quine.....	Chicago
C. S. Bacon.....	Chicago
A. J. Ochsner.....	Chicago
E. E. Wells.....	Chicago
W. L. Ballenger.....	Chicago
Charles Williamson	Chicago
W. A. Pusey.....	Chicago
C. P. Caldwell.....	Chicago
William Fuller	Chicago
E. Sackner	Chicago
W. M. Harsha.....	Chicago
Carl Sanger	Chicago
E. C. Morton.....	Chicago
C. H. Lovewell.....	Chicago
J. C. Hepburn.....	Chicago
S. L. Friduss.....	Chicago
T. H. Renn.....	Chicago
E. Patera	Chicago
A. M. Corwin.....	Chicago
George Webster	Chicago
J. M. Patton.....	Chicago
E. A. Gray.....	Chicago
W. E. Grosvenor	Chicago
F. H. Booth.....	Chicago
E. L. McEwen.....	Chicago
Otto Schmidt	Chicago
S. V. Balderson.....	Chicago
N. P. Colwell.....	Chicago

DISTRICT 4

Councilor J. F. Percy.....	Galesburg
M. N. Mackey.....	Toledo
W. R. Allison.....	Peoria
A. T. Riggs.....	Media
Louis Becker	Knoxville

DISTRICT 5

Councilor J. Whitefield Smith.....	Bloomington
E. Mammen	Bloomington
T. W. Bath.....	Bloomington
W. H. Gardner.....	Bloomington
George N. Kreider.....	Springfield
E. E. Sargent.....	Le Roy

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E. W. Fiegenbaum.....	Edwardsville
L. J. Harvey.....	Griggsville
William Parker	Mt. Sterling
W. H. Smith.....	Godfrey
Henry A Chapin.....	Whitehall

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J. J. Moroney.....	Breese
George S. Rainey.....	Salem
Frank Buckmaster	Effingham
F. M. Phieffer.....	Centralia
G. L. Armstrong.....	Taylorville
E. J. Brown.....	Decatur

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Councilor E. B. Cooley.....	Danville
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L. T. Weir.....	Marshall
E. E. Clark.....	Danville

DISTRICT 9

Councilor H. C. Mitchell.....	Carbondale
C. W. Lillie.....	East St. Louis
J. L. Wiggins.....	East St. Louis
H. C. Fairbrother.....	East St. Louis
F. W. Grinstead.....	Cairo
O. B. Ormsby.....	Murphysboro

These names were selected not by the Committee but by the Councilors of the several Councilor districts. While all of these parties did not appear a large majority did appear, and many of those not able to come sent letters expressing sympathy with the movement.

The meeting was organized by the election of Drs. E. Mammen, Bloomington, Chairman, and Dr. N. P. Colwell of Chicago, Secretary. Unfortunately Dr. Black was detained by serious illness, and Dr. Taylor was unable to attend. The meeting was addressed by Drs. A. D. Bevan, Bacon, Percy, Fiegenbaum, Brown of Sycamore, Burns, Billings, Hemenway and Kreider.

The tenor of the remarks was that conditions had about reached the limit in Illinois, and that a determined effort must be made by education of the profession and the public to demand the best conditions possible in educational requirements of those seeking to enter a medical school, thorough control of the students taking instruction; of institutions pretending to give medical instruction and discriminating examination of those completing the courses. To accomplish this object it was decided to ask the gentlemen composing the committees to appoint an advisory committee of three or five, and also one member of the profession in each county society in the State, and each district society in Cook County whose business it should be to focus interest on this important question. Also to secure a fund sufficient to permit the appointment of one person whose particular business should be to carry out the objects of the committee, for such a time as may seem necessary. The character of the men who met, and the enthusiasm which was shown, undoubtedly means that a new era in medical education is about to be inaugurated in Illinois.

EXAMINATIONS FOR LICENSE TO PRACTICE CONDUCTED BY THE ILLINOIS STATE BOARD OF HEALTH

We trust all our readers have noticed the remarkable results of the examinations made by our *de facto* State Board during the past sixteen months, a period curiously enough corresponding to the date when the Report of the Carnegie Foundation was promulgated. We hope that all remember the abuse of that report by Secretary Egan at the time when he said among other things:

1. "Nowhere between the covers of this report can there be found the slightest inkling that Mr. Flexner possesses the qualifications enabling him to determine whether a medical college is properly equipped to teach medicine and surgery, and whether proper instructions in medicine and surgery is given."

2. "Though we are loath to devote so much space to the report of the Carnegie Foundation, a report which, from our point of view, has already been given far more attention than it deserves."

3. "For the further enlightenment of our Illinois readers who, we do not doubt, are getting somewhat tired of the report of the Carnegie Foundation."

4. "Pausing in his meteoric dash through the western states, in the spring of 1909, Mr. Flexner dropped off in Illinois and inspected — as only he inspects — during the month of April, twelve medical colleges, one osteopathic institution, which Mr. Flexner classes as a medical college, three postgraduate schools and one school offering courses in certain specialties."

5. "The unsoundness of Mr. Flexner's opinion in regard to the powers of the State Board of Health was pointed out to him by the President and the Secretary of the State Board of Health in December, 1909."

6. "Mr. Flexner who evidently knows as little of law as he does of medicine" (see Bulletin, Vol. 6, No. 6, article entitled "The Report of the Carnegie Foundation," signed J. A. E.).

After having digested these few choice extracts from the pen of the secretary our readers will be prepared to appreciate the significance of the results of the examinations made before and after June, 1910.

From July 1, 1899, when the new law went into effect, to June, 1908, the number of candidates for licensure examined was 4,506; the number rejected, 186; percentage of rejections almost exactly 4 per cent. During this period the Board worked along unwatched by any one.

From Jan. 1, 1908, to July 1, 1910, 2,093 were examined and 314 were rejected, almost 15 per cent. This period corresponds with the active campaign of the committee of the A. M. A. and the Illinois State Medical Society against the outrageous laxity of the examinations.

From July 1 to date, or since the Carnegie Report, the number examined has been approximately 547; the number rejected 176; percentage of rejections 32.2. Had this percentage prevailed for ten years instead of one, there would have been 1,841 fewer applicants licensed in the twelve years and at least 1,000 fewer practitioners in Illinois at this time.

We pause here uncertain as to our obligations under the presentation of facts. Shall we congratulate Mr. Flexner on the tremendous influence his report has had on the Illinois State Board of Health, or shall we congratulate the Board on the beneficent effect the castigation it received in June, 1910, from the incompetent man who could not be influenced by the President and Secretary, has had on its conduct and action?

PROMOTION IN THE STATE HOSPITAL SERVICE

Dr. Ralph T. Hinton, assistant superintendent of Jacksonville, was on October 25th appointed superintendent of Elgin Hospital, by the Board of Administration. This appointment was followed by transfers of Dr. Foley, from Anna to Jacksonville; Dr. C. F. Reed, from Watertown to Kankakee; and Dr. T. R. Foster from Kankakee to Anna.

The transfers were all in the way of promotions. We congratulate the Board and the people on the new spirit which has been introduced in the State Hospital Service in the last year.

Good work is being appreciated and family influence and political pulls to a large extent eliminated from the medical service. Dr. Hinton has proven himself a progressive student, and richly deserves the appointment which he has received. The same we believe may be said of the other gentlemen named.

THE NEW CIVIL SERVICE LAW

This law, which apparently had its inception in the brain of the politician instead of the philanthropist, is having a hard road to travel. In the first place, the commission appointed to enforce it is endeavoring to cover every office in the state, regardless of either laws or justice; and in the second place the commission has made itself ridiculous by its rulings and reversings; thirdly, the law is being vigorously attacked in the courts to determine its constitutionality. Until this latter contention is decided we will say nothing further about the recent actions of the commission, and especially about its late secretary, Joseph C. Mason, who has resigned to take a position with the Illinois branch of the notorious "League for Medical Freedom." We can only wonder whether there might be any understanding between the Secretary of the State Board of Health and Mr. Mason, who we understand is a devotee of the Christian Science cult, and is thus evidently in league with all those elements fighting the regular profession.

MEETING OF THE INDIANA STATE MEDICAL SOCIETY

The 1911 session of the Indiana State Medical Association was held at Indianapolis, the last days of September, and proved to be a notable event. First we again call attention to the fact that this society meets in the fall, and that a number of state societies have abandoned the spring time, for the fall months for meetings. All report a decided benefit from this change.

At the Indianapolis meeting 748 members registered. The membership of that society is only about one-third that of ours; if the Illinois Society should have a meeting equally well attended, we should have more than 2,000 registered at the Springfield meeting, and this is the number that should be in attendance next May. So great was the number in attendance that the meeting place provided was entirely inadequate, and at one session the room was crowded to discomfort, and several hundred were turned away.

A new section on Diseases of the Eye, Nose and Throat was provided for, as it is said there are no less than 150 practitioners of this specialty in the state. Would it not be a good idea to have a special section on this subject in our society?

Nearly 700 attended the banquet, and fully 300 were turned away because they could not be accommodated. Addresses were made by distinguished men, such as Governor Marshall; ex-Vice-President Fairbanks; Dr. Wiley, of pure food fame, who is an Indiana man, and a graduate of the Indiana University; Dean Emerson of the Indiana School of Medicine, and others. The immense crowd was not disappointed, and it is said never in the history of the state has there been such a notable event for the medical profession. Dean Emerson's remarks indicate that the entire state society was united in an effort to improve medical education through one school supported by the state and fostered by private gifts of citizens. For instance, the late Dr. William Flynn of Marion, has made the School of Medicine the beneficiary to the extent of \$30,000.

Medical defense was endorsed and will begin Jan. 1, 1912. When it came to finding a location for the next annual meeting there was but one bidder, and that location so badly situated that the delegates voted unanimously to meet again at Indianapolis. In all probability it will be so arranged in the future that every alternate meeting of the Society will be held in Indianapolis.

These facts have been gleaned from the columns of the October issue of *The Journal of the Indiana State Medical Association*, and furnish food for thought in connection with our own society. In conclusion we quote the following editorial note which is also a pertinent one to our members:

"With the increased attendance at the sessions of our State Association it becomes evident that the expense and work involved in entertaining the visitors is a large load for the local medical society to carry. There is no good reason why the practice of asking the local medical society to do all the work and pay most of the bills should continue to be followed. The Association should pay its own bills, and its representatives should have full charge and relieve the local medical profession of obligations which now are a little too burdensome. One good paid representative could be responsible for all the general arrangements, and he should be given authority to employ assistants as required. This representative need not be a medical man, but he should be thoroughly acquainted with the needs of the association and be given entire charge of the purely business arrangements for the annual session."

"Science is a first rate piece of furniture for a man's upper chamber if he has common sense on the ground floor; but if a man has not got plenty of good common sense, the more science he has the worse for his patient."

Correspondence

MISSOURI STATE BOARD OF HEALTH

JEFFERSON CITY, Oct. 4, 1911.

Dear Doctor:—Replying to your letter, I will say that the following medical colleges of Chicago, concerning which you make inquiry, are recognized by this Board, as accredited institutions of medical teaching, viz.: Herring Medical College, Chicago School of Medicine and Surgery, Jenner Medical College and Reliance Medical College.

The National Medical University is not accredited by us. We would not accept, for examination, applicants coming from any Osteopathic school or from any institution teaching Chiro-Practics or any other cult.

Schools of Mechano-Therapy we do not recognize. Neither do we recognize the Northern Illinois College of Ophthalmology and Otology, nor the Chicago School of Optical Science and Mental Therapeutics.

Yours truly,

FRANK B. HILLIER, Secy.

WHERE THE CORRESPONDENCE SCHOOL DIPLOMAS GO

EFFINGHAM, ILL., Sept. 30, 1911.

To the Editor:—I am writing this letter to you, and through your correspondence columns in the ILLINOIS MEDICAL JOURNAL, to the profession at large in the state.

There is a so-called "faith healer" at St. Elmo, Ill., by the name of William Smith. This man until two or three years ago lived on a farm, where he begun his "faith healing." He is, so I am told, without education and with nothing especially to recommend him to the public, unless it is, as I understand he says, that he is the seventh son of the seventh son. His business having grown too large, he moved to St. Elmo, where he treated his callers at his home until within the last few months when he there bought or rented a hotel near the depot, which is conducted by his brother for his patients, where he also treats them. He pretends to make physical examinations, diagnoses the cases, and treats them, for which he makes regular charges, but of course it is unnecessary to charge the majority of those who call on him for they probably donate more to him than he would regularly charge, which I understand from a great many patients is \$1 per "treatment." His "treatment" consists principally of massage, and his promise to cure, but I understand at other times that certain special acts are made use of, as blowing on the part, spitting on the part, and rubbing it well with the fingers or hand, etc. As

far as I have been able to learn by talking with those who have visited him he promises every one absolute cure, regardless of their trouble, which of course he is not in position to have definite knowledge of. Earlier of course this man's patronage consisted of neighbors and people within a narrow limit of territory, but his fame greatly, and I might say rapidly, spread, until he is now being visited by people from many states, ranging from paupers to bank presidents, city and country folk alike.

Earlier he told people he was not allowed by the state law to make a definite charge, but gave his patients to understand that contributions were acceptable, which of course were usually freely given. Within the last year or two it seems that he makes regular charges for his work, where contributions do not come readily.

About a year ago the State Board of Health brought suit against him in the justice's court at St. Elmo, but of course he beat them, because no jury could be selected at home that would be governed in their decision by the law and evidence in the case. This simply served to aid him and make him very bold in his work. About the same time, I understand, he obtained a so-called diploma from some sort of a correspondence school, and since then it seems that he informs everyone that he has such a diploma, and that now he has a legal right to practice in this state, and charge for the same. His business now has grown so large that each patient registers at the hotel as he comes in, is given a number and he must take his "turn" in regular rotation in seeing him according to the numbers given.

To-day a patient was referred to us whom we found to have Hodgkin's disease; who has had a mass of glands on the right side of the neck for many months, which is now as large as a man's fist, and the glands in other parts of the body are beginning to enlarge. This man made four visits to see this "faith healer," so perhaps I can best give you an idea of his method of practice, as this patient gave it to me: Smith examined his neck and told him he had a goiter; he also examined his chest by percussion and auscultation and told him his lungs and heart were normal. He then "felt" of his abdomen and told him he had catarrh of the stomach. Then he rubbed the cervical mass freely and told him he would cure him if he would continue to come to him, and charged him \$1 for the "treatment." This was repeated at each of the four visits. He also informed him, as above stated, that he had a diploma now and that no one could prevent him from practicing in this state and to charge for it. This seems to be about his routine in all cases.

To give you an idea of the magnitude of his business, a man who had just come from there, told me this evening that there were now 500 registered on the waiting list who take their "turn" at seeing him. I am told also that often people will pay from \$5 to \$10 to get the "turn" of some one who is at the head of the list. He is also making business for St. Elmo in many ways, and of course the majority of the people think it should be allowed to continue, and a jury of St. Elmo people are not

going to stop it. I am also informed that he occasionally gives prescriptions, calling for drugs. There is no question but that this man is violating the practice laws of this state every day and it is high time the profession of the state were cooperating with the State Board of Health in bringing this fellow to recognize such laws as we have, though they be extremely loose in their limitations. I have no doubt but that physicians from almost every town in this state could report to the State Board of Health the names of many who have visited him, and I hope that in this one matter the profession at large in the state will work in unison to the extent of bringing this man within the bounds of the law. There is a constant clamor all over the country, and in this state in particular, for higher qualification on the part of the doctor, constantly making it harder for the medical student to enter at the front door of the profession, while it seems the bars at the back door are entirely down for the entrance of such fellows as this into practically all of the financial benefits accruing to the honest qualified practitioner of medicine. The state is full of irregulars and quacks, but this is the rankest violation of the practice laws of the state, and of right and justice that I have ever seen. I know our state laws are extremely loose, but there is surely a limit which this man could be brought to recognize, and if such is not the case then it is high time the profession of this state were uniting in an effort to see better laws placed on the statute books, and that the matter be given no rest until it finally comes, for if the profession will unite in this one request, the politicians of the state must finally grant it in the proper legislative act. I hope to hear from other physicians in this state directly or through the columns of *THE JOURNAL* in this matter, and hope each of you who feels interested in this thing, and who has personal knowledge of the web this man has woven about the suffering and confiding public will take the matter up directly with the State Board of Health. I hope you will be able to publish this in your *JOURNAL*. Thanking you for the same, I am,

Very truly yours,

F. BUCKMASTER.

MISREPRESENTATION OF FACTS

To the Editor: Many members of the medical profession in Illinois have been deceived by the persistent, systematic; and almost criminal misrepresentation of the State Board of Health, and certain interested aids. Is it not due to the state that you publish facts in regard thereto? The effort to secure a change in the Board does not arise from personal ambitions. Conditions are disgraceful.

June 13 Dr. Webster, President of the Board, Dr. Egan, its Secretary and Executive, and Dr. Charles J. Whalen, Chairman of the Medical Relations Committee of the Chicago Medical Society, appeared before the Council of the Chicago Medical Society and made the statement that no further prosecutions were possible under the medical practice act, because of the passage of House Bill 311. In support of their statement

they said that the general appropriation for the Board contained a provision that no part thereof should be spent for legal services, and that the Attorney General had rendered an opinion to the effect that it is not the duty of State's Attorneys to prosecute violators of the medical practice act. (See *Bulletin*, Chicago Medical Society, June 17, 1911, pp. 3 and 4.) The same statements were made in the article by Dr. Whalen, published in the September, 1911, *ILLINOIS MEDICAL JOURNAL*, p. 332, and repeated by him at the meeting of the Council, October 10. Shortly after the meeting above mentioned, the Supplement to the April, 1911, *Bulletin* of the State Board of Health of Illinois appeared, and on page 9 we are informed that the only opposition to said H. B. 311 came from the same State Board of Health and the committee of which Dr. Whalen is chairman. At the bottom of the page we read: "But as held by Attorney General Hunt in 1887, it is not the statutory duty of state's attorneys to bring suits for violations of the medical practice act. Few state's attorneys have acted for the State Board of Health in the past, even when they were permitted to retain the fines as compensation. Practically none will act after July 1, when the fines must be turned into the state treasury."

What are the *facts*?

A. Because certain state boards and officers, in defiance of law, persisted in so conducting their operations that it was difficult to keep track of their financial transactions, H. B. 311 was passed by the last legislature. This bill, now a law, makes no real change in previous statutes, but it makes it more emphatic that fees and fines received must be paid into the state treasury. It makes it imperative that the state executive officers must pay nothing out, except from legally appropriated funds. It in no way hampers the State Board of Health in *honest* operations.

The biennial appropriation, so far as applies to the said Board is found on pages 105 and 106 of the (Session) Laws of Illinois, 1911. The first paragraph provides for salaries; second, emergency fund; third, office expenses; fourth, antitoxin; fifth, treatment of rabies; sixth, \$20,000 per annum for the board in work of licensure. This paragraph closes with the words: "Provided, that no part of this sum to be expended for legal services." The seventh paragraph, entire, reads: "*For legal services for an attorney for the State Board of Health, \$5,000.*"

B. The Biennial Report of Attorney General Hunt, 1887-8, does not contain any opinion which could by any possibility be so twisted as to imply that it is not the duty of state's attorneys to prosecute violators of the medical practice act. He does not mention the act, nor the Board. He does call attention to a defect in the law as to the payment of state's attorneys, and that defect, as he mentions in his next Report, was corrected at the next session of the legislature.

July 13, 1910, Attorney General Stead rendered an opinion referring only to the enforcement of the medical practice act. (Biennial Report, 1910, p. 305.) In this he holds that it is the duty of state's attorneys to sue for the recovery of a penalty imposed for violations of the medical

act, and that state's attorneys are not entitled to fees in such cases, but they are entitled to 10 per cent. commission on amount collected. Dr. Egan and Dr. Webster must have known of this.

In 1901 Attorney General Hamlin (Biennial Report, 1901-2, p. 391), gave a very full opinion on special attorneys, mentioning specifically the State Board of Health, to which the following statements in the said opinion apply: It is the statutory duty of the Attorney General and state's attorneys to furnish all legal services required for state officers and boards. If it were not so provided by statute, it would still be the common law duty of the Attorney General. It is the duty of the state's attorneys to institute and prosecute in their respective counties, all suits and prosecutions required by state officers and boards. The state's attorneys have a just claim for fee or commission on all cases brought by state officers in their respective counties. There is no provision in law by which the State Board of Health may employ a special attorney. Neither may the board legally pay such special attorneys. The statutes provide what shall be done with fees and fines received by the Board, and the Board cannot lawfully divert those moneys.

On page 398 we read: "It makes no difference, however, to whom, or into what treasury or fund such fines and penalties may, by law, be payable; the provision is made by statute in every instance for the disposition thereof, and a diversion of the same out of the lawful channel, into the hands of a special attorney, employed without authority of law, though in conformity with precedent, is unwarranted."

Believing that Dr. Whalen had been misinformed, I wrote a brief statement of these facts to Dr. George F. Suker, Secretary of the Chicago Medical Society, asking that it be published in *The Bulletin*. In reply he asked me to present the evidence at the meeting of the Council, October 10. I appeared before the council with all of the documents mentioned. Drs. Whalen and George W. Webster were present. I made the statement and offered to show any one present the citations mentioned. Before I finished Dr. O'Byrne objected to my presenting the evidence, and the minutes of the meeting, as published in *The Bulletin*, October 14, made no mention of the matter.

Why does the Board persist in their falsification? According to the Bulletins of the Board, Charles Alling, Jr., is the unlawfully appointed attorney for the Board. The Board has unlawfully diverted public money into his private pocket.

As a Board of Health the board has been operating under Chapter 126a of the Statutes, has received appropriations and its accounts have been audited by the State Auditor. As a license board, under Chapter 91, it has audited its own accounts, and experience shows that it is very difficult to get at anything more than a general statement of the moneys handled. All of the above statements are easily verified by every citizen, and should convince of the corruption in the Board.

Evanston, Oct. 17, 1911.

HENRY B. HEMENWAY.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY

The regular meeting of the Adams County Medical Society was held Oct. 9, 1911, at Quincy, and proved to be the banner meeting of the year in every way.

Dr. John L. Porter of Chicago, an honorary member of the society, was the guest of the day. A clinic was held at Blessing Hospital, beginning at 8:30 in the morning, and continuing until 2:30 in the afternoon. A large number of patients were examined and three were operated on.

Among the cases examined were: anterior poliomyelitis, Pott's disease, tubercular knee joint, talipes planus, etc. An extreme case of talipes calcaneo varus was subjected to operation, also one of talipes valgus, and another of spinal trauma. After leaving the hospital the members enjoyed a delicious luncheon at the Hotel Quincy.

The afternoon session took place at the Elks Club Rooms. A motion prevailed that the minutes be suspended, and Dr. Porter allowed to address the society on "The Treatment of the Paralytic Deformities Resulting from Poliomyelitis." Two very interesting cases illustrating some of the points brought out by the speaker, were presented. A rising vote of thanks was given the Doctor for his instructive address. The large attendance showed how the members of the Adams County Medical Society esteemed their visitor and fellow member. On this occasion we had with us the superintendent of Blessing Hospital and a number of nurses. After a most successful day, the meeting adjourned.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting Oct. 4, 1911

The president, Dr. John M. Patton, called the meeting to order at 8:30 in the Assembly Hall of the Northwestern University Building with the following:

We begin the scientific work of the season with a paper on Rabies* by Passed Assistant Surgeon Stimson of the United States Marine-Hospital Service, Washington. (Applause.)

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

Regular Meeting, April 18, 1911

A meeting of the Chicago Laryngological and Otological Society was held April 18, 1911, with the president, Dr. C. M. Robertson, in the Chair.

A LARGE LIPOMA OF THE LARYNGO-PHARYNX: REMOVAL EXTRA-ORALLY UNDER COCAIN

ELMER L. KENYON, M.D.

The tumor occurred in a young woman aged 27 years. It reached from below the tip of the epiglottis to a point opposite the base of the uvula, and filled a very large part of the laryngo-pharyngeal space. After careful diagnostic study it was decided to remove the growth in the manner least dangerous and most comfortable to the patient. Under cocain the tumor was carefully shelled out

* Text of paper and discussion appear on page 501.

through a long incision through the mucous membrane over the tumor, without great difficulty and with perfect success. A very marked increase in weight followed.

DISCUSSION

Dr. Holinger: Judging from the size of the tumor which Dr. Kenyon just demonstrated it seems almost impossible that the patient was able to breathe, since the swelling was certainly large enough to fill an ordinary pharynx completely. Several years ago Dr. Holinger reported before this society an observation of a still larger tumor that proved to be a very soft and very movable sarcoma which, when the patient opened her mouth, left only a narrow air passage on one side. She could not keep her mouth open more than a few seconds at a time for lack of air. When she closed it she would make several motions of swallowing, thus pushing the tumor into the naso-pharynx. Afterwards she breathed quietly but as soon as she opened her mouth wide the tumor fell down into the oro-pharynx. In the removal a tracheotomy had to be performed, recovery was uneventful.

REMOVAL OF SCISSORS-BLADE FROM THE EAR THREE YEARS AND THREE MONTHS AFTER ITS INTRODUCTION

OTTO J. STEIN, M.D.

This piece of a scissors-blade was removed from the ear of a colored man 43 years of age. It was removed Feb. 17, 1911, or three years and three months after its introduction.

The first time the patient presented himself was on Sept. 1, 1909, with a history of having been stabbed in front of the left ear with a pair of scissors ten months previously, or in November, 1908. At the time of the injury he entered Cook County Hospital and the attending surgeon performed a postauricular incision removing two pieces of steel. Following this the ear continued to pain and a profuse suppuration from the canal ensued. This condition continued to prevail at the time he presented himself on his first visit to Dr. Stein's clinic at the Post-Graduate Hospital. At this time the examination disclosed a piece of metal, easily seen and felt, in the auditory canal. The patient was advised to enter the hospital for its removal but was not on hand on the day set for the operation and was not seen again until Feb. 17, 1911, seventeen months afterwards. At this second appearance the ear presented considerable swelling in front of and below the auricle; pain and a profuse and fetid discharge from the meatus. A piece of metal could easily be distinguished about one inch down the canal blocking it entirely. A hooked probe showed it to be firmly imbedded. The patient now readily consented to have it removed and an incision was made back of the auricle through considerable infiltrated tissue until the bone of the process was reached and resting against the anterior surface of its bony tip was found the pointed end of the scissors blade. The opening in the posterior membranous wall was enlarged to admit of the delivery of the blade. It lay in an oblique direction from above and anterior to the tragus, through the anterior-superior angle of the membranous wall and across the auditory canal and through the inferior-posterior angle of the membranous wall, so that the point of the blade rested against the anterior surface of the mastoid tip with one flat surface towards the drum membrane and the other presenting towards the external meatus.

Upon its removal with forceps the blade showed considerable corrosion. The blade measures $1\frac{3}{4}$ inches long, $\frac{1}{2}$ inch wide at its broadest and $\frac{1}{8}$ inch at its back.

DISCUSSION

Dr. Joseph Beck in discussion said that he was the physician at the Cook County Hospital whom Dr. Stein referred to in his report. The man came under his service at the hospital about one year before, with the following history and findings: While walking by an alley one night, in an intoxicated condition, a

man jumped out and struck him a blow with a knife on the side of his head, knocking him down. On examination three days later, Dr. Beck found an external wound, about half an inch wide, just below the zygoma, in front of the tragus. From the external ear was a discharge of pus which, after being washed out, disclosed a dark body that sounded metallic to the touch of a probe. No tenderness over the mastoid. Not much effect on the hearing. The one remarkable fact was the absence of some facial paralysis or salivary discharge from the external wound since the direction of the passage of the then suspected knife-blade appeared to be right through the parotid gland. An *x*-ray picture was taken and this showed a knife-blade, but of a very peculiarly shaped point, as though it were blunt. Dr. Beck decided to remove this foreign body under general anesthesia by going behind the ear, and it was necessary to chisel off some of the mastoid process since the blade had gone into the bone. On liberating the blade it was found that the explanation of the blunt end of the knife-blade was that the tip was broken and turned under the main portion of the blade. On removing the two portions of the knife-blade no evidence of anything else foreign was found, but after hearing the report of Dr. Stein this evening Dr. Beck believes that more careful examination would have disclosed the second portion of the scissors. In view of the history and the rarity of the employment of scissors as instruments of attack, he was satisfied with the knife-blade, especially after he explained the peculiar shape of it by the small second piece of point. The patient left without permission on the following day, and Dr. Beck heard nothing more of him until Dr. Stein told him personally of the case.

There are several points of interest about this case. First, the interpretation of the radiogram in showing the blunt end of the knife. The reason that the second blade did not show is that it was very likely just below the one Dr. Beck removed, and they both showed as one blade. A more important point is the question of malpractice in cases in private practice particularly. Dr. Beck has inquired about it and found that since the patient left without permission before he was discharged he assumed all the responsibility of complications or failure. Another *x*-ray picture subsequent to the operation, and reexamination of the ear, would have disclosed the foreign body.

THE INFERIOR TURBinate: ITS LONGITUDINAL RESECTION FOR CHRONIC INTUMESCENCE

OTTO FREER, M.D.

Dr. Freer mentioned the frequency with which simple venous distention of the cavernous tissue of the mucosa-periosteal covering of the inferior turbinate (so-called intumescence) is mistaken for true hypertrophy, so that confusion in the matter exists even in the rhinologic textbooks, whose illustrations portray as hyperplastic formations the often enormous globular swellings of the posterior ends of the turbinates due to mere intumescence. The vasomotor origin of these swellings is revealed by an application of adrenalin which causes them to vanish completely.

The intumescent inferior turbinate swells in all directions, backward into the choana, upward towards and even to the middle turbinate, downward to the nasal floor and forward into the nasal vestibule, so that when marked the intumescence may completely close the way for air.

Chronic intumescence is a very frequent affection and, as it is only temporarily influenced by local applications, its treatment is surgical. The usual operations, the cautery and the complete cutting away of the turbinate are objectionable, the cautery because it is ineffective and transient in its effect, and turbinectomy because it deprives the naris of the moistening effect of the turbinate and leaves a ragged, scabbing stump. Dr. Freer therefore recommends a longitudinal resection of the turbinate which reduces its size as desired and leaves it covered with mucous membrane after healing. The operation is described as follows:

The patient lies in a semirecumbent position on an operating table or chair, preferably one which may be raised or lowered, while an assistant behind his head holds the nose open with the retractors of Dr. Freer's set of septum instruments.

To make the turbinate insensible and bloodless, cocain flake crystals are rubbed into its surface with a small swab, moistened with adrenalin.

The operation is begun by a small vertical cut with a myringotomy knife at the foremost end of the turbinate, where it joins the superior maxilla. Through this cut the knife uplifts the covering of the convex side of the turbinate for a distance backward, and it is then replaced by the long sharp elevator of Dr. Freer's septum set, which completes the elevation backward to the rearmost part of the turbinate and downward to its lower border. The blades which detach the covering must be sharp, as it must be dissected off, for, because of the roughness of the bone, it is impossible to bare it entirely of its periosteum, which clings to the indentations.

When the mucosa of the convexity of the turbinated bone is completely uplifted from it, it is cut through along the lower border of the turbinate either from underneath with a minute, sharp-pointed curved bistoury or, as is usually the most feasible, from without, thus liberating a flap composed of the covering of the convexity of the turbinate.

This flap is reflected upward, leaving the bone uncovered on its convex side and ready for the chisel. The vertical part of the turbinated bone is then longitudinally chiseled away from its front to its posterior end, the mucosa of the concave (outer) side being sacrificed, as Dr. Freer has found it not only useless but inadvisable to preserve it as the tumescence is apt to return if it be left. The rearmost part of the turbinated body, just in front of the Eustachian orifice, remains attached by the soft parts, which must be severed by the sharp elevator while the bone is pulled upon by forceps. Its sudden release indicated that its last attachment has been cut through.

The flap is then made to cover the stump created by the horizontal part of the turbinate and the operation is completed by the insertion of Dr. Freer's layer tampon as described in his articles on the submucous resection of the nasal septum.

The advantages of the operation are:

The covering of all exposed bone by a smooth flap, so that when the packing is removed, after twenty-four to forty-eight hours, there is no bleeding.

Healing by first intention with no scabbing.

Permanent reduction of the turbinate to the size desired with absence of further intumescence.

Preservation of the physiologic function of the turbinate as here described for several years with perfect satisfaction and recommends it as a tried procedure.

DISCUSSION

Dr. John Edwin Rhodes stated that Dr. Freer presented in his usual clear and lucid manner his operation on the inferior turbinated body and he has little to add. The fact is recognized by all that this structure has an important physiologic function in moistening and warming the air before it enters the lungs, and any operation should conserve that function to the highest degree possible. It is so easy of access and furnishes such an easy field for operation by many of the methods recommended, that Dr. Rhodes would like to sound a note of warning as to the tendency to operate too often when more conservative measures only are indicated. He deprecates this tendency to operate except as a last resort. All have seen cases in which the radical measures in making a free nasal passage have resulted in a condition much worse than the original complaint. A dry, crusty nasal cavity, dryness of the mucous membrane of the naso-pharynx and pharynx, and an obstinate chronic laryngitis are sometimes the result of these operations. The operation under consideration, because it preserves such a large portion of the mucous membrane and underlying tissues, forming a turbinated body whose physiologic function is largely preserved, appeals to Dr.

Rhodes and he would certainly favor its substitution for the reckless sawing, cutting and tearing operations by cutting forceps that are largely in vogue.

From his own experience of twenty-five years Dr. Rhodes does not hesitate to select the galvano-cautery or cauterization by chromic acid in suitable cases. While he uses them possibly less frequently than formerly he has seen too many excellent results in selected cases to think of discarding them altogether. They can be accurately applied in these hypertrophic cases in definite areas, and there need be little or no subsequent scabbing or discomfort where linear cauterizations are made, and the narrow cicatricial line adequately controls the swelling and interferes very little with the normal function of the tissues. With hypertrophy of the bone, of course, this form of treatment would be inadequate and the operation described by Dr. Freer is quite ideal. In other cases of marked nasal obstruction such as he has described it would be the operation to be advised also. Dr. Rhodes has had some difficulty in his operating by this method in lifting the closely adherent membrane from the surface of the irregular nodulated body of the turbinate especially where previous cauterization had been done. The difficulty of disengaging the posterior end, which Dr. Freer speaks of, is also one that some other form of instrument might overcome. A guillotine slipped over the forceps holding the fragment, or the wire snare, suggest themselves as a possible solution of the problem. Dr. Rhodes wishes this operation might displace largely some of the other reckless methods he has referred to.

Dr. Joseph C. Beck stated that this operative procedure appeals very much to him because it is strictly surgical, sufficiently radical and still conserves the physiologic function of the inferior turbinal. Particularly the preservation of the mucous membrane flap, which covers the denuded bone, is very prettily demonstrated by the author. To that point has Dr. Yankauer contributed a great deal in his suggestion to suture the dissected mucous membrane in resection of the hypertrophied inferior turbinal. There are several statements that the author made in reference to the pathology that Dr. Beck wished to take issue with. He speaks of the hypertrophy and says it is due to the lymphoid tissue overgrowth, in contradistinction to the condition he is describing to-night, namely, the turgescence or vaso-motor disturbance. As a matter of fact, in hypertrophic rhinitis it is usually an inflammatory condition, with hypertrophy of all or any of the various component structures of the turbinate, as, for instance, we can have hypertrophy of the epithelium covering the turbinal, or the mucous glands may be increased; the bone and the loose areolar tissues may be increased in size as well as numerically; that is hyperplasia. Again, the vessels may be hypertrophied and increased in number; that is, this erectile tissue, and we can and frequently do have hypertrophy or hyperplasia, with turgescence in the same inferior turbinal. Dr. Beck has demonstrated that to himself repeatedly in making histologic examinations of tissue removed in the partial turbinectomies, and in this connection he would like to ask Dr. Freer if he has made any investigation along this line in the many turbinal operations he has done by this method, since that would add considerably to the subject.

Dr. Edwin Pynchon: Enlargements of the inferior turbinal may in a general way be divided into two classes: those in which there is a chronic hypertrophy or relaxation of the soft tissue, and those in which the bony framework is of too great size. In the latter case the soft tissue may be practically normal. In either case respiration may be obstructed or drainage made defective.

Bony enlargement of this turbinal may be due to either a general thickening of the bone or, as more frequently occurs, to an increase in size of the bony scroll, which may extend downward too near the nasal floor, causing defect in drainage, or outward from its attachment so as to be too near the septum, thereby obstructing respiration. In other cases the scroll may be so large as to be defective in both of these described ways. Bony enlargement of this turbinal is generally limited to the anterior three-fifths of the body.

For correction of this defect, when the enlarged scroll extends downward too near the floor, Dr. C. R. Holmes originated a method of procedure whereby, with a delicate saw introduced above the bottom of the scroll, a sufficient section is

removed to insure good drainage. In this way great benefit has been secured, particularly in cases in which tinnitus and deafness were observed. By this operation as described complete relief is obtained in a large number of cases, though when the upper portion of the bony scroll is too near the septum some obstruction to respiration will continue if a further step be not taken. For this purpose, after removal of the lower portion of the scroll, as suggested by Dr. Holmes, Dr. Pynchon has designed a small saw with convex blade wherewith, by sawing from below upward, the bone is severed without injury of the soft tissue above, and in this way the remaining portion of the body is caused to drop away from the septum. By the use of tampons to retain it in its new position the severed bone reunites and both the obstruction to respiration and drainage are corrected. This method of operation Dr. Pynchon has previously described, whereby a permanent correction of this trouble is secured.

Enlargements of the soft tissues, wherein the bone is not involved, are best corrected by incising a sufficient section of the same, as suggested by Dr. Freer in his paper, so after healing the passage will be sufficiently roomy. The galvano-cautery can also be employed, and when the posterior end of the bone is too large the hot snare is the best method of treatment.

Dr. Elmer L. Kenyon: It is not easy to realize the whole significance of the procedure just described by Dr. Freer. He is to be congratulated upon opening up so suggestive a field but much experience will be required to determine just what may be expected of the method. He has shown us that the mucous membrane can be elevated from the bone of the lower turbinate over a large area and that this must be accomplished by sharp rather than by blunt dissection. The second step in his procedure is the cutting away of the lower edge of the denuded lower turbinate bone. Evidently these are two quite distinct procedures, since the operation on the bone could not well influence the result upon the intumescence of the superior portion of the turbinate body, which we are given to understand is corrected quite as completely as the intumescence of the lower part. The first thing to be determined would seem to be the effect simply of elevation of the mucous membrane without incising it and without removal of any part of the bone itself. Knowing how far the chronic vasomotor dilatation would be corrected from such a procedure alone, one would be in a position to realize exactly the further effect of incision of the mucous membrane and removal of bone in addition.

In instances of chronic intumescence, certainly very common, in which the turbinate bone is far from being too short but in which the lower meatus is filled by intumescence, one would fear that incision of the bone with correction also of the intumescence might easily result in an excessively large breathing space.

The cautery has a great advantage in enabling the operator to place and adapt his operative procedure exactly to the degree and place of vasomotor disturbance. Especially is this so where a certain amount of hypertrophy accompanies the intumescence, a common occurrence. Whether the new procedure could be so well adapted to the variations remains for experience to determine. Widely varying degrees of tendency to dilatation exist in different cases and therefore the same procedure for all cases, as seems to be contemplated by this paper, does not seem rational.

Moreover, what the ultimate effect of extensive denudation of the turbinate bone upon the physiologic capability of swelling and contracting of the mucous membrane might be remains to be determined. For this physiologic capability has to do, probably in an important way, with the infiltrating and warming functions of the nose, under conditions producing irritation of the nasal mucosa, and should by no means be too greatly interfered with. Thus are opened up questions all of which require to be studied before this interesting procedure can take its place with certainty in rhinology. Dr. Kenyon thinks Dr. Freer is to be congratulated for thus stimulating this new field of inquiry and he will gladly try the method.

Dr. Otto Freer (closing discussion): Dr. Freer found the favorable comment of Dr. Rhodes, Dr. Beck, Dr. Kenyon and Dr. Wilson most gratifying. The easiest part of the operation is the elevation of the mucosa of the convexity of the turbinate. The accurate division of the flap along the lower border is more difficult. The tendency is to place this cut too high and so to make too narrow a flap, or else to buttonhole the mucosa halfway back and so to sacrifice the posterior half of the flap. The first operations are necessarily crude, but experience will improve the work and missteps are not fraught with such serious consequences as in the case of septum operations.

Dr. Rhodes very properly emphasized the uncertainties of the cautery, and its use has certainly become very limited. Dr. Freer did not think that the probing mentioned by Dr. Sonnenschein as a Vienna method would be even as effective as the cautery, even if the impossible were possible and a probe could be made to travel under the toughly adherent mucosa-periosteum. Only a sharp blade can do this.

In regard to the Kirstein lamp, Dr. Freer finds it indispensable for accurate intranasal work and regards the crossed filament light of Brünings as far superior to any yet devised for deep illumination. It takes the place of the regular Kirstein miniature lamp and may be obtained of F. L. Fischer, Freiburg in Breisgau, Germany.

Dr. Freer agreed with Dr. Pynchon's view that chronic intumescence of the posterior end of the inferior turbinate was a cause of Eustachian obstruction, the reason probably being that the congestion of the mucous membrane extends backward and into the lumen of the Eustachian tube, which lies close to the turbinate. Dr. Freer has seen such Eustachian obstructions disappear after resection of the inferior turbinate body.

The objection to the saw for the removal of the bone, is the fact that its distal end punches into the region of the Eustachian tube at every thrust and that, in such a narrow cavity as the nose, it is an inaccurate instrument, which can only cut in a straight line, causes a great deal of pain, especially if it stick in its course, and must be jerked free. It is also apt to tear the flap. The chisel is much better adapted to the task.

In regard to Dr. Beck's question concerning a histologic examination of the portion of the turbinated bodies removed, Dr. Freer had not had time to make this but he felt satisfied that the close retraction of the mucous membrane to the bone produced by adrenalin was proof that the swelling, in all but a small minority of the cases seen by him, was simply due to a vasomotor dilatation of the cavernous veins of the turbinate. Dr. Beck's remarks suggested an interesting pathologic research for any one wishing to make a study of the changes found in hypertrophy and intumescence.

Dr. Freer replied to the question of Dr. Eugene R. Lewis of Dubuque as to what surface the flap adheres to in healing, that the cut surface of the bone and the cut surface of the outer covering of the turbinate form a raw surface broad enough for the attachment of the flap, which curls around the bony stump and forms a smooth border for the reduced turbinate.

ON THE THEORY OF VESTIBULAR STIMULATION

GEO. E. SHAMBAUGH, M.D.

Dr. Shambaugh demonstrated a number of drawings of anatomic preparations of the crista ampularis. On the basis of his anatomic studies he has endeavored to analyze the physical relations which result in a stimulation of the hair cells of the crista ampularis. As a result of this study he dissents from the Breuer hypothesis of displacement of the cupula from the impaction of endolymph currents. He concludes that the reaction in the cupula from endolymph currents is more in the nature of a pressure against the haircells than an actual displacement of the cupula. Working from this hypothesis he concludes that only the haircells on the side of the crista receiving the impact are stimulated. Furthermore that the rise and fall of intra-labyrinthine pressure associated with each

pulsation of the heart must produce pressure of the cupula against the hairs on each side of every crista and thus stimulate all the haircells of the various ampullæ. In this way he would account for the tonic impulses which apparently emanate from a normal labyrinth. Since the Ewald experiment has demonstrated that a current in one direction produces a greater stimulation than in the other Dr. Shambaugh concludes that the haircells on one side of each crista are more sensitive to stimulation than those on the opposite side. It follows, therefore, that whenever the tonic impulses coming from one labyrinth are unchecked by those coming from the opposite side the resulting nystagmus will always be directed toward the side from which these impulses emanate for the reason that the stronger impulses come from those cells which direct the nystagmus toward the same side.

Dr. Shambaugh discussed his reason for concluding that the phenomenon of rotation nystagmus must depend upon the continuation of peripheral stimulation, and discussed the mechanism by which he believed this continuation was possible. He points out a number of fundamental objections to the Barany hypothesis of centers in the cerebellum which control the nystagmus and against the Breuer hypothesis of displacement of the cupula. Dr. Shambaugh explains by his theory not only all the phenomena of rotation nystagmus but finds a plausible explanation for the after nystagmus as well as the diminution of the duration of after nystagmus resulting from long continued rotation. A full statement of his theory and deductions will appear later.

DISCUSSION

Dr. Jacques Holinger: The criticism Dr. Holinger has to offer on Dr. Shambaugh's theory is of a teleologic nature. The crista and the cupula consist of soft tissue. It does not seem rational to put a pressure gage, the hairs, between two pillows, the crista and the cupula, since the greater part of the pressure is lost in the soft elasticity of these transmitters. For this purpose one at least of these, either the crista or the cupula, should be hard.

Dr. Shambaugh speaks of the cupula as having a kind of lever action, thus increasing the pressure. A lever must be inflexible otherwise it can not act as a lever, and the cupula is a soft, mushy mass and certainly not fit for such work. Furthermore a lever action implies a motion of the cupula, and it is just *against* this motion that Dr. Shambaugh builds up his theory. Finally it seems to me that the very existence of the cupula is the strongest argument against Dr. Shambaugh's theory. If we wanted to protect the hairs from the pressure of the moving fluid we put just such a soft cap on top of them but if we wanted them to get the full benefit of the pressure we would expose the hairs directly to the impact of the fluid rushing in one direction or the other.

Dr. E. R. Lewis, Dubuque, Ia.: If I understand Dr. Shambaugh's theory correctly it is based upon the conception that the haircells of the crista ampullaris are endowed with differing stimulus abilities, of greater and of lesser influence according to situation, those nearer the utricle in the crista of the superior canals being of greater influence (or as the Germans say "höherwerthig") than those farther from the utricle in the same crista; those nearer the utricle in the crista of the horizontal canals being of lesser influence (or "minderwerthig") than those farther from the utricle in the same crista. He also contends that cupular pressure rather than endolymph movement is the immediate source of the ciliary irritation which stimulates the haircells. On this understanding I can not explain certain phenomena which are perfectly explained on the theory of the haircells being stimulated by ciliary movement in one direction and depressed by ciliary movement in the opposite direction. For instance, let us express normal tonus impulses in equilibrium as +1, the impulse value of the "minderwerthig" cells of the superior canal crista as +2, and the impulse value of the "höherwerthig" cells of the same crista as +3. If a stream of cold water be allowed to flow into the left external canal while the head is in the upright position nystagmus to the right will develop. According to Dr. Shambaugh's theory the "minderwerthig" cells should be stimulated in the left superior

crista and their impulse value is $+2$ as compared with the tonus impulse value of $+1$. As the right horizontal labyrinth has not been influenced artificially it is apparent that its preponderance can be due to tonus impulses only, hence the cold applied to the left side can not have *stimulated* any of the cells, but must have *depressed* their activity. Equilibrium being purely a *relative* condition it matters not whether it is upset by *adding* to the influence of one side or *taking from* the influence of the other. In this case any *additions* must have been made to the side which has been influenced artificially. It is apparent by the nystagmus that no *additional* impulses have emanated from the left side or the nystagmus would have been opposite in direction. We are forced to conclude, therefore, that as the right side has not been stimulated the left side must have been *depressed* by the use of the cold water.

By conceiving a decussation of nerve connections similar to that of the optic tract, the geniculate bodies of one side representing the crista and the retinae representing the vestibulo-ocular centers, it would be possible to account for what actually does happen in response to this experiment, *on Dr. Shambaugh's theory*. But the conception of any such decussation distribution of nerve connections is impossible in the light of what occurs when the anode is applied. The anodal influence is not *selective*, as is the caloric influence, but affects the *whole* labyrinth simultaneously and similarly. The result of anodal influences applied to the left labyrinth is rotatory nystagmus to the right. Rotation nystagmus to the right may be caused by selective stimulation of the right superior canal endorgans or by stimulation of the haircells of *all* the canals of the right labyrinth at once. Inasmuch as the right side has not been affected artificially in any way in the application of the anode to the left side, we are compelled to fall back upon the tonus impulses in fixing responsibility for predominance of the right labyrinth. *But* we can not accept the theory of decussating nerve connections as set forth in connection with a possible means of applying Dr. Shambaugh's theory to account for the result of caloric experiment, because if the effect of the anode is to *stimulate* the haircells in connection with decussating fibers, cells whose impulse value is represented by $+2$, the *same* influence must *stimulate* the haircells in connection with non-decussating fibers, cells whose impulse value is $+3$, and the inevitable result would be preponderance of the *left* side and nystagmus *to the left*. Inasmuch as nystagmus *to the right* develops, it seems to Dr. Lewis that one is forced to conclude it is due to depression of influence of the haircells of the influenced left labyrinth, according to the older theory based upon the works of von Stein, Högyls, Ewald, Barnay, Neumann, Alexander and their school.

As regards Dr. Shambaugh's contention that cupular pressure upon the utriculeward side or upon the canalward side of the crista, rather than endolymph movement away from or toward the utricle, is the immediate source of the irritation of the cilia which results in stimulation of the haircells, it seems to Dr. Lewis an unimportant distinction without a difference to conceive the stimulation of the haircells of the crista to be the result of pressure by the cupula rather than by endolymph currents; in either case the important thing is the same, namely, that the *source of the force* affecting the change in ciliary position, be it by cupula pressure or by endolymph current, *determines the nature of the impulse changes in that labyrinth*, a force exerted *toward* the utricle upsetting vestibular equilibrium in one way, a force exerted *away from* the utricle upsetting equilibrium the other way.

Dr. Shambaugh, in closing, fails to gather from Dr. Lewis' remarks any serious argument against the hypothesis which he has advanced. His discussion regarding caloric stimulation is hardly to the point since the idea has long been discarded that the phenomenon resulting from the injection of cold water into the ear is caused by a depression rather than a stimulation of that ear. Dr. Lewis seems to imagine that a study of the minute anatomic relations in the crista amounts to merely a quibble. A correct conception of the anatomic structures is fundamental in formulating any theory of vestibular stimulation.

As regards the phenomenon of equilibrium and caloric and electrical stimulation, which Dr. Lewis seems to have so much difficulty in accounting for, Dr.

Shambaugh believes these are more readily explained by his theory than by the old hypothesis.

Dr. Holinger seems to think that it is not reasonable to account for the stimulation of the haircells by a pressure of the cupula against the hairs since both the crista and the cupula are soft structures. Dr. Shambaugh can not take the objection seriously since he is willing to accept that the slightest impact of the cupula against the hairs is sufficient to stimulate the cells. Dr. Holinger inquires what the object of the cupula is since the endolymph currents could just as easily affect the hairs if there were no cupula. Dr. Shambaugh replied that whether we can imagine a way by which the haircells might be stimulated in the absence of a cupula has no direct bearing on the problem. The fact remains that the cupula exists and in some way acts as the medium of transferring impulses from the endolymph to the hairs of the haircells. Dr. Shambaugh can see how this pressure of the cupula against the haircells from the impaction of endolymph currents might be increased by the larger surface which the projecting cupula presents for the reception of impaction of endolymph currents.

Regular Meeting, May 16, 1911

A regular meeting of the Chicago Laryngological and Otological Society was held May 16, 1911, with the president, C. M. Robertson, in the chair.

A CASE OF LABYRINTHINE FISTULA IN THE PRESENCE OF A LONG
STANDING DESTRUCTION OF THE OPPOSITE LABYRINTH

GEORGE E. SHAMBAUGH, M.D.

The case was a man aged 24 years who had discharging ears since childhood. The right ear had been the seat of a cholesteatoma with acute mastoiditis, for which several operations had been performed five years ago by a general surgeon. Radical mastoid cleared up the disease in the right ear. There appears to be no vestige of function left in the right ear. The tuning forks are lateralized to the left side in the Weber. Caloric responses were absolutely negative for the right ear although the current passed directly into the large opening left by the radical mastoid. The patient experiences periods lasting over a number of days of a pulsating tinnitus in the left ear with a marked diminution in the hearing and associated with marked disturbance of equilibrium and occasional nausea. The handle of the hammer is still present attached to the promontory. In front of this a large opening leads to the attic and posterior an opening toward the antrum. He still hears the conversational voice fairly well in this ear. There is a spontaneous rotary nystagmus to the left. The caloric tests show the characteristic responses: a distinct fine rotary nystagmus to the right on irrigating with cold water; a coarser rotary nystagmus to the left irrigating with hot water. On rotation the horizontal after nystagmus to the left is much more pronounced than the after nystagmus to the right, although the latter is quite distinct but of short duration. Compression of air in the left external meatus produces a very coarse horizontal nystagmus to the left (affected ear). Suction produces a finer horizontal nystagmus to the right.

This case is of special interest because it permits one to perform the classical Ewald experiment on the human ear and study the reaction thus obtained independent of any influences from the opposite side. The case demonstrates very clearly the fallacy of the hypothesis that the stimulation of an ear will always produce nystagmus directed towards that side, and the idea that the reason why certain manipulations of an ear produce nystagmus towards the opposite side is because these manipulations depress the affected ear and permit the tonic impulses from the opposite side to direct the nystagmus towards that side. In this case we have no impulses from the opposite side as this has been long since dead; yet in the caloric tests, in the rotation tests and in the suction in the external meatus we can direct nystagmus to the opposite side. A case with clearly marked fistula symptoms such as this one disproves very positively both the Breuer theory

of nystagmus and the Barany theory. In Breuer's theory he assumes that the continuation of the nystagmus which occurs in the rotation test is occasioned by the continuation of peripheral stimulation. The momentary impaction of endolymph displaces the cupula to one side or the other, the stimulation of the hair-cells continuing until the cupula has been dragged back into its normal position. In a fistula case such as this we produce a current in the endolymph resulting in nystagmus, but the nystagmus ceases immediately upon the cessation of the compression, showing that the displacement of the cupula is not what takes place. Barany places the phenomenon of nystagmus in centers in the cerebellum which are set off by impulses arising from a momentary impact of the endolymph against the crista. The nystagmus lasts until the energy stored up in those centers has been expended. If this theory were true an explosion of these centers by compression of air in the external meatus in cases of fistula would necessarily produce nystagmus lasting for some time. This is not the case; nystagmus in this case ceases immediately upon the cessation of the compression.

EXAMINATION OF THE FUNCTIONS OF THE EAR IN REFERENCE TO THE DIAGNOSIS OF TUMORS OF THE CEREBELLAR PONTINE ANGLE

DR. J. HOLINGER

The question of an early operation on tumors of the cerebellar pontine angle depends entirely upon our ability to make an early diagnosis. Many of these patients come first into our offices with general complaints of one-sided hard-hearing, noise and dizziness. The diagnosis is shown in four cases. The first one was a patient with all the symptoms well developed. Hearing for loud shouting only, vision of figures only, but otherwise no paralysis; no other symptoms. Several months later the diagnosis was confirmed by operation. In the second case the diagnosis was made nine months before other symptoms, especially the eye symptoms, appeared, and nearly a year before it was confirmed by operation. The third case was a case of gumma which showed the same characteristic functional ear symptoms combined with eye symptoms. The patient was promptly cured with mercury and potassium iodid. The fourth case is still under treatment.

The diagnosis is based on the appearance and the occurrence of increasing of deafness, dizziness, noise, lasting several weeks or months in one ear only, combined with normal appearance of the drum membrane and a free Eustachian tube. Hearing by bone conduction is much more impaired than hearing by air conduction. An *a'* or A tuning fork on the mastoid of the affected side or on the vertex is mainly or exclusively heard in the good ear. Hearing of the lowest sounds is less affected than hearing of the highest sounds. The caloric test does not give any characteristic reaction. However, walking and hopping forward and backwards with eyes closed usually gives hints in one way or another.

The tumors of the cerebellar pontine angle are evidently much more frequent than Benninghaus in his text-book of 1906 asserts when he says that only forty cases were recorded up to date. In Chicago alone in a very few years six cases were observed.

DISCUSSION

Dr. Alfred Murray: In Dr. Holinger's second case he mentions the fact that the patient served in the Danish navy, and had his left ear turned toward the gun in firing. There is another factor in the case which might account for a possible traumatic origin of the deafness. About 20 years ago the patient received a blow upon his left occiput by a swinging boom on board ship, which rendered him unconscious for several hours. How much influence this could have had is of course problematical: I mention it merely as a fact in the history. The discovery of his deafness came about in an interesting manner. The patient was accustomed to placing the receiver of the telephone to his right ear, but upon occasion, being obliged to use his right hand for writing, he transferred the receiver to his left ear and found that he was unable to hear. This was the first

intimation he had that the left ear was deaf. The deafness must have been of very gradual development for he is a man of more than average intelligence and certainly would have noticed a rapid impairment of hearing.

This patient consulted Dr. Holinger nine months before his first visit to me. At that time an ophthalmoscopic examination showed no edema of the nerve heads. His vision began to get cloudy at this time but this was shown to be due to presbyopia, as the patient was then 44 years old, and the condition was corrected by lenses. There was also no edema of the nerve heads during the summer following, that is the summer of 1909, the patient having been then examined by an oculist in Valparaiso, Indiana.

He consulted me at the suggestion of Dr. McMichael, on Dec. 17, 1909, on account of failure in his vision which at that time was found to be 20/40 in both eyes, and could not be improved by glasses. Ophthalmoscopic examination showed bilateral choked disc, the right disc being elevated about 4 D. and the left 1 D. On Dec. 22, 1909, the perimeter showed slight irregular contraction of the right field and a practically normal left field.

Suspecting the possibility of a specific cause for the condition, I ordered large ascending doses of K. I., and mercurial inunctions. Four weeks of this treatment seemed to produce no improvement and it was, therefore, discontinued.

On January 3, 1910, the amount of edema was about equal in both eyes, viz. 4 D. By January 10, 1910, the vision of both eyes had begun to get quite cloudy, and on January 17, or one month after the patient's first visit to me, there appeared an absolute central scotoma in the right eye, extending out 15 or 20 degrees from the point of fixation. Dr. D'Orsay Hecht was then called in consultation and diagnosed the condition as tumor of the left cerebello-pontine angle, and advised operation. There was present at this time a decided tendency to fall to the left side when closing the eyes; also a numbness around the left angle of the mouth, and on the left anterior third of the tongue. The reflexes were slightly exaggerated on the left side of the body.

It might be stated here that two of the symptoms so constantly present in brain tumors, namely headache and vomiting, were practically absent throughout the course. The patient had a dull ache back of the left ear, as he expressed it, but at no time was it severe enough to require an opiate. Vomiting was present during the time K. I. was being administered, but ceased upon its withdrawal.

Jan. 12, 1910, or five weeks from the time the patient first consulted me, the right eye was practically blind, the vision of the left eye was rapidly falling, and the left field showed beginning contraction. Five days later Dr. Halstead did a decompression, removing a large portion of the occipital bone, finding it to have undergone considerable pressure absorption on the left side; the dura of that side was bulging as if under much pressure, and was coursed by many dilated vessels. No effort was made at this time to remove the supposed tumor. One week later, however, a second operation was performed, at which time Dr. Halstead found a cyst located at the left cerebello-pontine angle, from which he evacuated 3 or 4 oz. of thin serous fluid, and curetted the walls. The cyst being incorporated in the cerebellar tissue, no effort was made to remove it.

Four days after the second operation there was marked reduction in the edema of the discs, the outlines of which were, however, not yet visible. There were numerous points of exudate and a few hemorrhagic spots around the discs. A few days later the right disc became visible and showed atrophy of the optic nerve; the retinal vessels were contracted. The left disc has never become entirely clear, being covered apparently by unabsorbed exudate.

On July 7, 1910, or five months after operation, the vision with proper correction was: R. 20/30; L. 20/20. This acuity of vision had not been materially lessened at the time of the patient's last visit to me on Feb. 21, 1911, or over a year after operation.

The first field of vision following operative interference was taken two weeks after the second operation. This was very superficially done, owing to the weakened and irritable condition of the patient, but is sufficiently accurate to be

depended upon. It shows slight concentric contraction and a relative central scotoma in the right, and a practically normal white field in the left.

The field of vision taken July 7, 1910, or about five months after operation, shows a condition approaching very nearly the normal, except for a pericentral scotoma in the right field and inversion of colors in both fields.

The last field of vision, taken on Feb. 21, 1911, or more than a year after operation, does not differ materially from that taken seven months before, except in one or two particulars; principally interlacing of color fields. This calls to my mind a very interesting feature of the case. Interlacing and inversion of the color fields is not of uncommon occurrence preceding operative interference, but in this case, strange to say, these phenomena did not develop until several months after operation, and could not then be accounted for by a return of pressure, for there are, even now, absolutely no symptoms indicative of a relapse.

In this very interesting case the patient was doomed not only to total blindness, which was rapidly approaching, but also to certain death; whereas now, one year after operation, his vision, with appropriate lenses, is almost normal. He is able to take active part in public life, and carry on his business affairs practically as well as ever before. His chief incapacity is in doing any heavy lifting or hard physical labor. There is a moderate hernia cerebri, but the patient does not find it necessary to wear any protection. The impression gained from his general appearance and from conversation with him is that he is a perfectly healthy man, physically and mentally.

The case brings out a number of valuable points in diagnosis from the standpoint of the aurist, neurologist and ophthalmologist, and shows the brilliant results which can be obtained through operative interference.

Dr. Geo. E. Shambaugh: Dr. Shambaugh does not think Dr. Holinger made it quite clear regarding the loss of bone conduction in cases of unilateral tumors. As long as the opposite ear is normal the difference in bone conduction from one part of the head or another is very slight and usually one can hardly speak of a diminution of bone conduction in unilateral nerve deafness. Dr. Shambaugh recalls a case reported at the American Otological several years ago where there was nerve deafness and the Weber lateralized distinctly to the affected ear, and where the post-mortem disclosed tumor in the internal meatus.

THE RELATIONS OF THE INTERNAL CAROTIDS AND OPTIC COMMIS- SURE TO THE PITUITARY BODY

DR. O. H. MACLAY

Since the intranasal route operation can be done for partial removal of the pituitary body, it is well to know the dangers of this region. The structures in the immediate neighborhood are the internal carotids, cavernous sinuses and optic commissure, separated by only a few millimeters. Pathology may render the intranasal route safer than it appears to be in the normal, that is, structures may be pushed aside, but the cavernous sinuses still remain. The changes in the shape of the sphenoid bone cause considerable difference in the relations of the parts. Average of intercarotid measurements, from examination of fourteen heads, 9.2 mm. Breadth of sella turcica taken at widest part gives an average of 11.4 mm. Average length of anterior wall of pituitary fossa, which is the part of the sella turcica that must be penetrated in order to gain entrance to fossa, from forty-two measurements, is 7.6 mm. This wall may be very thick or very thin, depending on the presence or absence of large sphenoidal sinuses. The greatest length may give the most shallow fossa. According to depth of fossa, three types are described: the deep cup-like, the shallow trough-like and the one representing the average.

DISCUSSION

Dr. George E. Shambaugh: This careful anatomic work by Dr. Maclay on the relations about the sphenoidal sinuses is very timely. The interest of the profession toward tumors of the hypophysis and the fact that the intranasal route

for the removal of these tumors is a feasible one, is going to result in a great many operations undertaken through the nose on the sphenoidal sinuses. It is extremely improbable that everyone that undertakes this work should have the anatomic facts which Dr. Maclay has brought out clearly in mind. It seems extremely desirable in the narrow confines that one should always perforate the roof of the sphenoidal sinuses as near the median line as possible. It would seem that a good deal of difficulty would be experienced in knowing when one is working on the median line. The septum is not a reliable landmark. In my preparations the sphenoidal sinuses show greater variations in the relative size of the two sides than any other of the nasal sinuses, and this difference is usually the result of a septum displaced laterally.

Dr. Holinger: Dr. Maclay certainly obtained valuable data in studying the normal anatomy of the sella turcica, but a pathologic anatomy would be of still greater value for the operation of the tumors of the hypophysis. The important question would be, do any of these tumors occur in the shallow variety of the saddle, and in which direction do such tumors grow? Or do the tumors only occur in deep saddles and do they mostly grow downward, thus encroaching on the sphenoidal sinus, making the operation from the nose so much easier and less dangerous? A comparison of the *x*-ray pictures of the different cases so far as reported would answer these questions.

Dr. George McBean: Dr. McBean was asked to speak of two cases that had been under his care. The first was a spontaneous hemorrhage from the right sphenoidal sinus in a young woman who had had no previous nasal treatment. The bleeding was so profuse that Dr. McBean was unable to locate its source except that it was in the upper back part of the nose. He packed the nose after Freer's method, but was unable to control all the bleeding. They finally exposed both internal carotids, but pressure on neither one controlled the hemorrhage, and they did not dare to compress both. The patient finally died, and the autopsy showed necrosis of the external lateral wall of the right sphenoidal sinus and rupture of the internal carotid artery.

The second case is one of tumor of the hypophysis cerebri in a young woman who came to Dr. McBean a year ago complaining of diplopia and beginning failure of vision. He found trouble in the right sphenoidal sinus, removed the middle turbinal and opened the sinus. He found it packed with a mass resembling polypoid tissue. He curetted out as much tissue as possible and the diplopia and vision improved in a few days. The sinus appeared excessively deep and rapidly refilled with tissue.

Dr. Shambaugh saw her at this time with Dr. McBean, but further operation was refused because the diplopia and beginning failure of vision for which she first consulted Dr. McBean had improved, although she had bilateral papillitis. She left the city in June and did not return until February, 1911. By this time her vision had failed so far that her family consented to further operation. Dr. McBean had skiagrams made by Dr. Reichman and Dr. Oliver, and they both show a very greatly enlarged sella turcica. Dr. Grinker also saw the patient with Dr. McBean and corroborated the diagnosis of a growth in the region of the hypophysis with extension into the sphenoidal sinus, as Dr. Pierce so beautifully showed in his plates at the meeting two months ago. Dr. McBean sent the patient to Dr. Harvey Cushing, who operated by the sublateral trans-septal route on April 20. She made an uneventful recovery, but the vision is very poor. The disk is choked in both eyes and there is also primary optic atrophy, so much improvement is not expected.

A DEMONSTRATION OF MICROSCOPIC SLIDES

NORVAL E. PIERCE

1. Fibroma of the nasal pharynx.
2. Tumor from the region of the sphenoid (doubtful diagnosis).

Dr. Lorenzo Grosvenor: Tumors of nasal cavities.

CHICAGO OPHTHALMOLOGICAL SOCIETY

A regular meeting was held Dec. 19, 1910, with the President, Dr. W. A. Fisher, in the chair.

A CASE OF SO-CALLED BOTTLE-MAKER'S CATARACT

Dr. Robert von Der Heydt reported the case of a baker who, after years of exposure to the heat of the oven, developed what has been described in the literature as a case of bottle-maker's cataract.

DISCUSSION

Dr. H. S. Gradle said that Birch-Hirschfeld had come to the conclusion that bottle-maker's cataract was caused by the ultra-violet rays and that heat had nothing at all to do with it.

Dr. von Der Heydt called attention to the fact that Birch-Hirschfeld's experiments were conducted on rabbits and that heat was eliminated. The eyes were exposed to light only. The cataract was developed in one minute. In bottle-maker's cataract the eye is exposed to heat for many years; Parsons' patient was exposed for twenty-four years. Other experimenters have produced retinitis and conjunctivitis by irritation, but in these cases light had nothing to do with it.

TRANSPLANTATION OF SKIN FOR PTERYGIUM

Dr. Clark W. Hawley presented a case illustrating the transplantation of a piece of skin on the eyeball to prevent the return of a pterygium. The pterygium is first dissected from the cornea, being careful to stop where the conjunctiva and the cornea unite. Then, by slightly undermining the pterygium, it will recede, leaving the sclera exposed. From behind the ear a very thin piece of skin is shaved off and trimmed while on the razor to the desired size. This piece of skin must be just as thin as it is possible to cut it, otherwise there will be trouble afterward. The piece is then floated from the razor directly on the uncovered sclera. Then two stitches are passed through at each posterior cornu of the graft, upward and backward, anchoring it to the conjunctiva so that the pterygium cannot push it forward onto the uncovered corneal wound. This is the most difficult part of the operation, but so far has been necessary. I believe I have solved the problem in another way which will eliminate these two stitches, making the operation exceedingly easy, whereas now it is rather difficult. In time the graft disappears, the cornea has time to regenerate itself and become absolutely transparent.

DIVERGENT STRABISMUS CURED BY TENDON TUCKING

Dr. H. W. Woodruff, Joliet, reported the case of a man, aged 28, who had a divergent strabismus of 65 degrees which was cured by tucking of both internal recti muscles with tenotomies of both external recti muscles. Before operation the left eye showed a divergence of 65 degrees. After operation there was only 15 degrees of divergence, but the patient was annoyed by diplopia. Tucking of the right internus and tenotomy of the right externus resulted in binocular single vision with some exophoria.

DISCUSSION

Dr. Clark W. Hawley has done a simple tenotomy of the external rectus which secured binocular vision. The patient had had divergent strabismus as long as she could remember. With a little care he obtained fusion as well.

Dr. W. H. Wilder asked how much folding had to be done to get such a good result, and whether he had to go back of the muscle fibers themselves to secure enough of a fold.

Dr. Woodruff (closing) said that he has been doing this operation for about eight years, but he cannot tell accurately just the degree of result he can obtain. In the case reported he went back as far as he could on the extrnal rectus because

of the extreme degree of divergence, but he could not state the number of millimeters. He used the Worth suture except that he did not include the conjunctiva or capsule. That is the particularly commendable feature of the Worth operation. There is no slipping up on the fibers.

Dr. W. A. Fisher asked whether it would not be a good plan to insert the stitches as far back as possible and then not pull up so hard on them?

Dr. Woodruff, in a moderate degree of strabismus, would do the tucking first and then the tenotomy, partial or complete, as might be indicated, in convergent strabismus a slight under effect and in divergent strabismus a slight over effect. He regulates this by the tenotomy on the opposing muscle.

SOME OBSERVATIONS ON THE USE OF THE TONOMETER

WALTER PARKER, M.D., ANN ARBOR, MICH.

DISCUSSION

Dr. E. V. L. Brown has been using the Schiotz instrument for several years and would be lost without it. He has found a number of tensions in the neighborhood of one hundred and one tension as low as five. The highest normal tension was 27; the lowest 12. He called attention to an article by Schirmer on the use of the tonometer in iridocyclitis, in which he states that low tension is a constant symptom of this disease. Even after the disappearance of all symptoms the tension will often remain low for as long a period as months. He recently had a case of papular syphilide with iritis in which the question arose as to whether the ciliary body was involved. The tension in this eye was 5, and is still low, although the patient has excellent vision. It is a case of recurring iridocyclitis.

Dr. H. S. Gradle said that in the instrument devised by his father the stylet does not fall out, which is an essential objection to the Schiotz instrument. It necessitates sterilization of the stylet and often the plating is damaged so that the stylet is roughened and may cause an injury of the cornea. The relationship between tension and blood pressure, he said, is worked out by Kramer. He examined the blood-pressure in all his eye cases and found that in every case it was low when the tension was high.

Dr. M. N. Black, Milwaukee, asked whether the objection to the instruments stated by Dr. Parker, abrading the cornea, could not be overcome by applying cocain solution or an oily collyrium to the eye?

Dr. W. H. Wilder said that a well standardized and convenient tonometer would be a very valuable aid in this work. The Schiotz instrument seems to be more accurate than any other. There are so many problems that might be taken up in connection with this. For instance, the effect on the eye with increased tension; whether we could quickly decrease the tension by means of massage, which is frequently employed successfully in cases of acute glaucoma. He thought that such an instrument as a tonometer would amply repay one for time and money spent if it will accurately and quickly determine the degree of tension, more so than can be done by the simpler method of estimating tension with the tactile sense. There is so much difference of opinion in the degree of tension observed. Weeks, of New York, claims to detect with the finger a three-fourths of one tension. He thought it required much experience to become expert in taking the tension of an eye. He feared that when this mechanical means became perfected there would be a neglect to develop the tactile sense for determining tension of the eye.

Dr. Parker said that a single application of cocain for a minute would enable one to make an examination without any difficulty. When there is much spasm of the orbicularis he would not persist in the use of the instrument. He thought, however, that free use should be made of any mechanical apparatus which would enable one to do better work.

Dr. Wilder inquired whether Dr. Parker had observed any increase in tension following the instillation of cocain. It has been stated, he said, that it is dangerous to use cocain in eyes that have a tendency to glaucoma.

Dr. Parker (closing) has not had any experience in this direction. He has noticed a difference in the tension of the eyeball after the tonometer has been used for some time, but he has not had any experience with the instrument after the use of drugs.

A SIMPLE OPERATION FOR CATARACT. AN ILLUSTRATED REPORT OF THE OPERATION AS PERFORMED AT THE JULLUNDUR CLINIC

DERRICK T. VAIL, M.D., CINCINNATI

Dr. Derrick T. Vail, Cincinnati (by invitation), presented his paper, which was a descriptive and illustrated article of eighty-one pages, written during a visit to Smith's Clinic at Jullundur, Punjab, India, in September, October and November, 1909. The article was in book form in the nature of a special souvenir edition, a copy of which was presented to each member present. He said Smith used no instruments of precision in diagnosing all kinds of new cases which come to his clinic for operation. He relies solely on the senses of sight and touch, acting on the principle that there is no disease of the eye which does not express itself objectively, and that a keen, accurate and well-informed surgeon can diagnose operable cataracts by his unaided senses.

Post-operative infection among over a thousand cases was so rarely present (two cases) that Vail could only attribute its rare occurrence to Smith's manner of preparing the field for operation. The "Jullundur speculum" is introduced and the lids held forcibly away from the ball at the same time the brow and tissues of the orbit above the eye are forcibly retracted by the fingers of the unoccupied hand, thus exposing the entire conjunctival sac for douching with 1:2000 bichlorid solution, which is sent in the conjunctival sac with gravity force in a half-inch stream.

The incision is purely corneal, being begun in the exact horizontal meridian at the limbus. The edge of the knife is held at an angle of 20° to 30° in relation to the plane of the iris. In one-third of the cases the cut is made with one forward sweep of the knife; in two-thirds of the cases completed with a return stroke, cutting as nearly vertically to the corneal layer as possible, and coming out two or three millimeters below the upper limbus. The iridectomy is done by pressing the iris up in the incision by external manipulation with the lower blade of the iris forceps and it is cut with ordinary iris scissors. A small iridectomy is always attempted.

The assistant now holds the upper lid away from the ball on Smith's lid hook held in the first finger and thumb of his right hand. With the extended fingers of the same hand the eyebrow is forcibly retracted to guard against the patient squeezing his eye. The lower lid is held with the flexed thumb of his left hand.

The operator now expresses the lens, using the bulbous end of Smith's lens hook applied to one spot midway between the lower margin of the pupil and the lower periphery of the iris, making deep pressure back toward the optic nerve and shifting the pressure as indicated by the behavior of the lens. In about one-fourth of the cases the lens turns within the eye and the lower edge ascends to come out of the incision first. This is favored by the operator making traction with his hook away from the incision or toward the patient's feet. As soon as the lens is about to escape through the incision, gentle upward manipulation is used to tuck the cornea behind it and the lens is then gently raked out of the wound by means of the hollow of the hook.

In two-thirds of the cases the lens starts to come upright. The operator will favor its upright delivery by following it up and at the same time tucking the cornea behind it. The iris is replaced at once by the iris repositor, the end of which is made to glide along under the scleral shelf of the wound between the cut

apron of iris and the cornea. The whole operation is usually done in less than five minutes' time. There is a minimum of traumatism and instrumentation.

The results in Jullundur were surprisingly beautiful and uniform, after-complications being the great exception.

Dr. Vail devoted his time while there to learning every minute detail of Smith's technic and he offered no improvements, modifications or suggestions, taking it for granted that the profession desired to know exactly how Smith operates in his own clinic.

Dr. D. W. Greene, Dayton, Ohio, complimented Dr. Vail on his paper and particularly on the illustrations which he had made. He knew that his book had been delayed about three years because Lieut. Col. Smith did not have a man competent to illustrate his operation until Dr. Vail arrived. Smith has frequently described the operation, but could not get it illustrated, therefore it has been imperfectly understood. In relation to the Jullundur speculum, Dr. Greene does not know who devised it. Smith does not claim it; they were made for us by a native in the Bazaar and with the two hooks and spatula made of *coin silver* cost about \$2.50 in India. The set costs \$10.00 in this country. As to the douche with which the eye is flushed, reference to Colonel Herbert's book on "Cataract Extraction" will show that he speaks very favorably of the value of bichlorid in 1:2000 solution as an antiseptic. In India 75 per cent. of the people have trachoma, so that when the eye is flushed with this solution, germ growth is inhibited long enough for the section to heal. If it heals promptly, there is no infection.

In about 1,200 operations, during our visit at Jullundur, there were only four cases of infection. I have never equaled this record and I doubt very much whether it has been equaled in America. In Moorfield Hospital, in London, I have been informed by one of our members this evening, that there were three cases of infection in one hundred operations when he was there.

Dr. Vail, he said, spoke of Major Smith's stepping to the left side of the patient when he operates on the left eye; he does that because he believes in giving the patient the benefit of his best hand. Smith says no matter how ambidextrous a man may be, he is not equally skillful with each hand. There is no section in the world to compare with the Jullundur section, for intra-capsular delivery in persons under 65 years of age. But being a corneal section he thought that in the case of patients 70 years old and over it is better to make the enlarged circular marginal section of De Wecker. The advantage of that section is that it is nearer the vascular circulation of the limbus, although it is not so well located for delivering the lens as is the Jullundur corneal section.

FULTON COUNTY.

Fourteenth Annual Meeting, Canton, Ill., Oct. 3, 1911

The fourteenth annual meeting of the Fulton County Medical Society was called to order by President Coleman at 1:30 p. m. in the Elks Parlors.

The secretary not being present the reading of the minutes of the preceding meeting was on motion postponed until the next meeting. Drs. Regan and Scholes as auditing committee reported that they had examined the treasurer's books and found them correct. Report adopted. Treasurer's report shows collections during the year amounting to \$285.75 and expenditures \$288.41.

The following officers were elected: President, Dr. Veda C. Murphy, Cuba; first vice-president, Dr. D. D. Kirby, Canton; second vice-president, Dr. C. D. Snively, Ipava; secretary-treasurer, Dr. D. S. Ray, Cuba; necrologist, Dr. P. H. Stoops, Ipava; membership committee, Dr. L. R. Chapin, Canton; member of board of censors, Dr. J. W. Connelly, Farmington; delegate to State meeting, Dr. D. S. Ray, Cuba; alternate to state meeting, Dr. P. H. Stoops, Ipava; member of legislative committee, Dr. F. C. Robb, Farmington. The following names were presented for membership and referred to the membership committee, Drs. W. W.

Johnston, of St. David, John A. Logan of Canton, E. G. Davis of Lewiston, A. B. Taylor of Fiatt, and John R. Hinde of Lewiston. On motion the rules were suspended and the membership committee was ordered to report on the applications at this meeting. The committee made a favorable report and the secretary was on motion ordered to cast the vote of the members present electing the applicants to membership, which being done the chair declared them duly elected.

Dr. Wm. Cubbins of Chicago gave a very interesting demonstration of "Intestinal Suturing." Dr. Allen B. Kanavel of Chicago gave an excellent demonstration of "Abdominal Diagnosis." "Some of the Present Day Problems of the Profession in Illinois" was presented by Dr. J. F. Percy of Galesburg and was discussed by several. Drs. Baxter and Shallenberger moved a vote of thanks to Dr. Percy for his paper. Carried.

At 6 p. m. dinner was served to seventy-six physicians and wives in the Elks' banquet room. At the close of the dinner Dr. Nelson as toastmaster introduced Dr. Stoops who gave the toast "To Our Guests." Response by Drs. Kanavel, Cubbins and Percy.

Dr. C. B. Horrell of Galesburg showed "Why the Physician Should Look on the Bright Side," and President Murphy gave "The Doctor in His Airship."

At 8 p. m. Dr. Kanavel gave a lantern demonstration of "Goitre" to a large crowd. The public had been invited to this demonstration and more came than could be accommodated. A unanimous vote of thanks was given Drs. Kanavel and Cubbins. Those present were: Drs. Wm. Cubbins and A. B. Kanavel, of Chicago; Drs. J. F. Percy and G. B. Horrell, of Galesburg; Drs. E. W. Oliver, of Peoria; J. E. Sutton, of Port Orchard, Wash.; Veda C. Murphy, Jennie W. Parks, Maud T. Rogers, J. E. Coleman, I. L. Beatty, J. A. Logan, D. W. Bottorf, E. M. Price, A. J. Baxter, P. S. Scholes, R. W. Harrod, A. P. Standard, E. E. Davis, E. S. Parker, H. C. Putnam, H. H. Rogers, P. H. Stoops, L. R. Chapin, W. E. Shallenberger, C. N. Allison, J. C. Simmons, N. W. Miller, C. D. Snively, C. E. Howard, A. C. Cluts; R. P. Grimm, E. G. Davis, W. D. Nelson, Jr., L. V. Boynton, J. M. Adams, D. D. Kirby, S. A. Oren, E. W., Regan, D. S. Ray, W. W. Johnston.

Collections, \$93.50.

D. S. RAY, Secretary.

JACKSON COUNTY

The September meeting of the Jackson County Medical Society was held in the parlors of the Jackson Club at Murphysboro, Thursday, Sept. 21, 1911. The committee appointed to investigate the case of Haskell, the magnetic healer, reported that he had been properly handled by the courts and had left for parts unknown. A motion was made and carried that the 1912 meetings of the society be held monthly on the third Thursday, and further, that the programs for succeeding meetings be decided on at each meeting.

Dr. O. B. Ormsby spoke of the three methods of dressing wounds, dry, ointment, wet. Discussion.

Dr. C. C. Molz reported a death following an anesthetic in which the post-mortem findings showed a fatty degeneration of all organs. Discussion.

Dr. H. G. Horstman spoke of "When and How to Use the Forceps in Obstetrics."

Adjourned.

RAY B. ESSICK, Secretary-Treasurer.

JO DAVIESS COUNTY.

The Jo Daviess County Medical Society met in the parlors of the Ray Hotel, Stockton, Ill., at 1 p. m., Thursday, Oct. 5, 1911. After the roll call and the regular routine of business the program for the day was taken up. Two essayists being absent, the paper entitled "Gastric Disorders Although Not Gastric Disease," was read by Dr. D. G. Smith, of Elizabeth. This paper brought out quite a heated discussion and many valuable points were presented, everyone present giving his personal experience. Every one present was well repaid for his time

spent; the only losers were those who were absent. It is hoped that every member will avail himself in the future of these educational feasts, and thereby give his patrons that which they are justly entitled to. An elegant repast was served in the dining room at 5 o'clock which was an honor to the Stockton Division. The Society adjourned to meet at Warren in January, 1912.

D. G. SMITH, Reporter.

LAKE COUNTY

A meeting of the Lake County Medical Society was held at Dr. Taylor's office, Libertyville, Tuesday, Oct. 3, 1911. This was a joint meeting of doctors and dentists and in the absence of the president and vice-president of the Lake County Medical Society, it was moved and carried that Dr. E. V. Smith be elected chairman for the meeting. The secretary's report was read and approved. The resolutions of the American Medical Association were read but laid on the table for consideration until our next meeting. The very bad weather kept away most of the physicians and dentists but 16 were present and the following program was rendered: "Cases in Which the Dentists Need the Assistance of a Physician," by Dr. W. S. Bellows. This paper started a warm discussion on the subject of pyorrhea which was of value to both dentists and physicians. The next subject on the program was a paper read by Dr. E. A. Crane on "Oral Hygiene." This was a most excellent paper and following its reading it was moved and carried that the Lake County Medical Society offer this paper to go with the lecture given last fall by Dr. Bergen on "School Hygiene," and that the secretary furnish the county superintendent of schools with copies for the use of the teachers throughout the county.

Following this Dr. Crane demonstrated the proper use of the tooth brush and a very profitable discussion on the subject of "Oral Hygiene" followed. It was moved and carried that the Lake County Medical Society make it a point to have at least one meeting a year with the dentists. The meeting adjourned to the dinner which was being prepared for us, after which they spent a few hours in bowling and billiards to the great pleasure of all present.

W. H. WATTERSON, Secretary.

MADISON COUNTY

The Madison County Medical Society met at 2 p. m., October 6, at Edwardsville, with President Dr. W. H. C. Smith in the chair. Present: Drs. Ferguson, Burroughs, Hirsch, Barnsback, Kerchner, Oliver, Riley, Moore, Schreifels, Schmidt, Gwynn, Hastings, Robinson, Smith, W. H. Grayson, J. H. Fiegenbaum, Pogue, Cook, Dorr, Wedig, Wahl, Braner, Binney and E. W. Fiegenbaum. Visitors: Dr. W. K. Newcomb of Champaign, Dr. W. R. Mangum of Maryville, and Rev. C. W. Sydman of Troy.

On motion of Dr. E. A. Cook it was ordered that any physician residing in the county, who has been in active practice for 40 years or more, be admitted by application, as an honorary member of this society without payment of dues.

Dr. W. K. Newcomb, president of the state society, read a paper on "Some Forgotten Features of Medical Progress," which was received with much interest. Among other things he said:

The methods which were necessarily employed by the old doctors were now superseded by the mechanical appliances which give greater scope to the efforts of the present day physician. Along this line he dwelt at some length on the phenomena of loss of business sometimes experienced in the case of the older physician, and which is occasionally hard to account for.

A strong point brought out was the necessity for reciprocity. The doctor called attention to the fact that each state has its regulations for the practice of medicine, and that many of them do not recognize the rules of others, so that a physician from Illinois, no matter how eminent he might be in his profession,

would not be permitted to treat a cold for some one in some other state where he might be at the time.

He cited the instance of a professor from the Illinois University who went to Canada for his health. He wished to occupy at least a portion of his time with practice of his profession, but found that he would have to take an examination, the same as one who had never practiced. Then he found that twenty years devoted to medicine did not enable him to readily answer some of the technical catch questions that were asked and although regarded as a learned man in Illinois he failed in the examination and had to go to raising wheat.

An Illinois physician desiring to locate in Texas could not go direct, but took a roundabout course. He found that Iowa recognized Illinois certificates, that Arkansas accepted Iowa papers, and that Texas had fraternal relations with Arkansas. So he went from state to state, depositing one certificate and taking up another, until he reached Texas. He could not have gone there direct. This, the doctor pointed out, is foolish, and he advocated proper rules of examination in all states and then an interchange of papers when desired.

On the subject of the division of fees he noted that the doctors in the country were getting in some instance a "rake off" from the city specialist. He said that the country doctor with an intricate case would send the patient to some specialist, who would charge an exorbitant fee and send a portion of it to the country doctor as his commission on the business. Such a practice would naturally induce the country doctor to send the patient not to the most learned man, but to the one who was willing to slip the first physician the largest fee. Dr. Newcomb declared that this did not often happen, but that there were well authenticated instances.

On motion of Dr. Schreifels a rising vote of thanks was tendered to our distinguished visitor for his efforts. On motion adjourned to meet in November in Granite City.

M'LEAN COUNTY

The McLean County Medical Society held its meeting in the Council Chambers, Bloomington, Ill., September 7. On invitation of the program committee Dr. Carl E. Black, of Jacksonville, Ill., was a guest of the society. After a pleasant 6 o'clock dinner at the Illinois with some of the members, the meeting was called to order in the council chambers by the president, Dr. R. A. Noble. After a short business session Dr. Black read a very interesting paper on "The Medical Library and the Card Index System."

The doctor laid a special emphasis on the necessity of higher medical education, the medical society as the post-graduate school for the busy practitioner, and the necessity of such a school being equipped with a greater library than any one member could afford; hence the necessity of the members cooperating in establishing a public library. By the aid of the stereopticon he illustrated the Dewey Card Index System for the classification of subjects, giving us a foundation on which to establish a library with subjects so indexed as to make it a ready reference. The paper was given at an opportune time as Bloomington is surely in need of such a library, the subject was ably handled, and we hope it will be the beginning of better things in our society.

The last regular meeting of the McLean County Medical Society was held in the council chambers, Bloomington, Ill., Oct. 5, 1911, the president, Dr. R. A. Noble, presiding. At the business session the resolution looking toward the extension of our organization to the A. M. A. was indorsed.

Drs. Bath and Copenhaver, the essayists of the evening, were both absent but Dr. Bath's paper on "Technique in Abdominal Supra-Vaginal Hysterectomy With Reference to Avoiding Hemorrhage and Ureters," was ably read by Dr. H. H. Griffin, who had drawn illustrations showing the anatomical relations of the blood-supply and ureters. The paper was well received by the society, but as the author was not present was little discussed.

T. D. CANTRELL, Secretary.

MONTGOMERY COUNTY

The Montgomery County Medical Society met in the rooms of the Young Men's Club at Nokomis at 8 p. m., Tuesday, Sept. 5, 1911. The meeting was called to order by President P. M. Kelly, and the following were in attendance: Drs. A. E. Burwell, J. S. Archibald, W. H. Geddy, W. A. Hodges, W. C. Hovey, G. S. Wilson, I. G. Hubbard, C. H. Lockhart, Z. V. Kimball, M. W. Snell and H. F. Bennett.

The committee appointed at the Raymond meeting to revise the fee bill and to suggest a cooperative plan for collections, submitted the following resolutions:

Resolved, That each physician in the county shall render statements regularly to each patient within three months after services have been rendered, then statements shall be sent every thirty days for two months, or until two subsequent statements have been sent, when, if no provisions have been made for adjusting accounts, the bill shall be given to a collector, and the name of such persons shall be reported into the physicians' delinquent list; and be it further

Resolved, That a copy of the Physicians' Delinquent List be furnished to each physician of the county who desires it, with recommendation that no further credit be extended to such delinquents until they have made satisfactory settlement with the physician or physicians with whom they are delinquent; be it also

Resolved, That it is deemed advisable that the Montgomery County Medical Society should adopt a Business Bureau, consisting of five members, the same to be elected one each from Litchfield, Hillsboro, Nokomis and Raymond, and the chairman of the county society shall be a member and chairman *ex officio* of the bureau. It shall be the duty of each member of said bureau to keep a list of all delinquents in his district reported to him and to furnish a copy of same to the chairman of the bureau, the said chairman to keep a list of same open to all physicians of the county; be it further

Resolved, That the following fee-bill be adopted and adhered to by all members of the Montgomery County Medical Society and recommend the same as the official fee-bill for all physicians of Montgomery County.

Rate charged for professional services adopted by Montgomery County Medical Society:

Office fee (minimum charge), \$1.

Visits within city limits (daytime), \$1.50.

Visits within city limits (at night), \$2.

Visits in country (daytime), 50 cents per mile, plus \$1.50.

Visits in country (at night), 75 cents per mile, plus \$2.

Consultation fee (mileage as above extra), minimum, \$5.

Obstetric cases (uncomplicated), mileage extra, \$15.

When complications exist, extra, according to nature of complications.

Surgical cases (requiring anesthetic), \$10 and up.

Anesthetic (administered anywhere), minimum, \$5.

The applications for membership of Drs. I. G. Hubbard, Jr., and W. B. Kilton of Harvel were presented and referred to the board of censors, for action at the annual meeting.

Meeting adjourned.

After the adjournment, the members present were the guests at a banquet given by the Nokomis fraternity, which was a most enjoyable affair and lasted until after midnight.

ROCK ISLAND COUNTY

The mid-summer meeting of the Rock Island County Medical Society was held at the Watch Tower Inn, August 8, 1911. After supper the business session was held. Minutes of the June meeting were read and approved. The report of Dr. J. R. Hollowbush, delegate to the Aurora State Meeting, was presented. President Eddy reported on the resignations of Drs. Gardner and Meyer of Moline. As these members declined to reconsider their action, their resignations

were ordered accepted. Bills from the Manufacturer's Hotel, Driffel Printing Co., and Watch Tower Park Co. were allowed. Dr. H. M. Stowe, of Chicago, then read a paper on Rupture of the Parturient Uterus. The discussion, which was opened by Dr. W. L. Allen, of Davenport, Ia., was participated in by Drs. Eddy, Ludewig, Williams, and Hollowbush. Dr. Stowe exhibited models, made by himself, of plasticine in explanation of his paper, which proved to be very interesting and was enjoyed by all. Present: Drs. Eddy, Chapman, Love, Snively, Ludewig, Williams, Souders, Hollowbush, Foster, Craig, Lamping, Comegys, Mueller. Guests: Dr. H. M. Stowe, Chicago; Dr. W. L. Allen, Davenport, Ia.

ALBERT N. MUELLER, Secretary.

SANGAMON COUNTY

The regular meeting of the Sangamon County Medical Society was held in Lincoln Library, Springfield, October 9, George F. Stericker, president, in the chair. Dr. C. U. Collins of Peoria was the essayist of the evening, and presented a valuable paper on "Nitrous Oxid Gas Anesthesia." Dr. Collins has for some months used this gas exclusively as an anesthetic, preceding its administration by the hypodermic use of morphia and scopolamin. He has installed a plant for manufacturing the gas, and this besides furnishing the material at a low cost, assures the administration of fresh gas. The gas has absolutely no deleterious effects on the tissues; there is no vomiting after its use; the patient rapidly recovers consciousness, and does not dread the repetition of the anesthetic. The paper was discussed by Drs. Kreider, Munson, Donelan and others. Dr. A. L. Brittin of Athens related a clinical case of early operation after an abdominal injury. Drs. Kreider and Bain presented *x*-ray photographs of fractured bones in which the Lane bone plate had been used successfully.

The meeting adjourned to the annual November meeting and banquet which will be held at the Leland Hotel November 13.

ST. CLAIR COUNTY

On Thursday, October 4, the St. Clair County Medical Society met in regular session at Edgemont in a hall provided by Mr. Philip Traband. The meeting was called to order at 3:45 p. m., by Dr. Otrich, vice-president. The minutes of the previous meeting were read and ordered adopted as read. Dr. Auten of Belleville presented a woman, aged 36 years, whose faucial tonsils had been misplaced to the posterior and lateral aspect of the tongue. The tonsils were large, of a bluish cast and showed crypts, which in some instances were filled with plugs of detritus. Between the pillars of the fauces no tonsillar tissue could be detected. There were several plaques of lymphoid tissue on the anterior portion of the tongue. Sections were taken from several areas for examination but no report from the pathologist had been received. The mother died of cancer of the breast last year.

The fact that many of our members were in arrears was mentioned, upon which Dr. Lillie moved that the treasurer advise every such member of his standing in the society, and if by Nov. 1, 1911, all dues are not paid, each man in arrears shall have his name stricken from the roll, and the officers of the State Society shall be immediately notified. The motion was seconded by Dr. Hansing and carried unanimously. In the absence of the entire board of censors, a temporary board consisting of Drs. Miller, Fairbrother and Lillie, was appointed to act on the application of Dr. A. L. Barton of Caseyville, Ill., for membership. The board reported favorably and moved that the secretary be ordered to cast the ballot of the society for the admission of Dr. Barton to its ranks. This was duly done.

Scientific Program: Dr. B. Twitchel of Belleville was to read a paper on "Sporotrichosis," but failed to attend the meeting. Dr. M. F. Engman of St. Louis

was then introduced, and after distributing pamphlets containing the fifth annual report of the Barnard Free Skin and Cancer Hospital, gave us a most interesting talk. He gave the history of the origin and development of the above named hospital and then branched out into the subject of carcinoma. He startled the members with the statement that one in twelve women and one in fifteen men past the age of 35 years were afflicted with cancer. He cited numerous experiments made at the hospital in mice and rats which showed that the virus of cancer could be attenuated or made more virulent by passing through different species. Dr. Engman felt certain that the numerous studies on cancer at the present time would lead to something very valuable in the near future. He had no treatment to offer except radical and, more important, clean surgery. In epithelioma of the face x-ray and thermo-cautery were very useful. On conclusion of the discussion of Dr. Engman's lecture Dr. Lillie moved that he be given a vote of thanks, and be asked to appear again, and bring Dr. Loeb with him to give us more of the detail of their work. The motion was seconded and unanimously carried.

Dr. Lillie, the chairman, read the report of the committee on revision of by-laws. Dr. Zimmermann objected to the words "reasonable fee bill" in one of the sections relative to corporation work, on the grounds that the word reasonable would always give room for argument. Dr. Hansing moved that the words "reasonable compensation" be substituted for reasonable fee bill. This motion was seconded and carried.

Dr. Zimmermann objected to article VII, section three, according to which every essayist was compelled to deliver his paper to the secretary of our society; and moved that the reading be changed to mean that essayists reading papers before our society shall be asked for a copy of such paper that it might be preserved in our files. This motion was seconded by Dr. Hansing, and carried.

The constitution and by-laws with changes above mentioned inserted was voted upon and unanimously accepted. The society then adjourned to a neighboring room where a very fine lunch was served by Mr. Traband. The secretary was asked by several members to express the thanks of the society to our host which was done. At 6 p. m. we stood adjourned to January, 1912. Present: Drs. Otrich, Hansing, Fairbrother, Applewhite, Miller, Lillie, Hagarty, Huggins and M. F. Engman, from St. Louis.

DR. CARL A. W. ZIMMERMANN, Secretary.

VERMILION COUNTY

The Vermilion County Medical Society was called to order Oct. 9, 1911, at 8:30 p. m., by President Dr. E. E. Clark. The minutes of preceding meeting were read and approved as read. At this meeting Dr. J. C. Rathbun and Dr. I. E. Burtnette were elected to membership. Dr. Cooley made a motion that the president appoint a committee of three to draft resolutions relating to the death of Dr. Harvey L. Hensley. Dr. Steely second. Carried. Committee: Cooley, Wilkinson and Steely. Dr. Hensley's death occurred Sept. 19, 1911.

A communication from the Dr. W. A. Cochran family, thanking the society for flowers sent at time of Mrs. W. A. Cochran's funeral, was read. There were no papers to be read at this meeting, it being a clinical meeting. There were three cases exhibited. Dr. Cooley exhibited a heart case which created a great deal of interest.

Dr. Solomon Jones exhibited a case of mitral and aortic regurgitation. Dr. O. H. Crist presented a skin case that created a very lively discussion. As the time was growing late it was decided not to present any other cases, though there were others in waiting.

The president of the Illinois State Medical Society, Dr. W. K. Newcomb, present as the honored guest of the evening, gave a practical lecture. The speaker urged the V. C. M. S. to cooperate with societies and members throughout the state in raising the standard of medical education. He advocated the unit standard of requirements throughout the United States; since if a man is

qualified to practice medicine and surgery in Illinois, there should be no bar preventing him practicing anywhere in the United States if he chooses to do so. He believes in the highest standard of education as an entrance requirement to a medical school.

After the lecture, Miss Northwood, the Hospital Superintendent, announced refreshments, which were thoroughly enjoyed. A vote of thanks was extended to the superintendent and her assistants.

After refreshments the gentlemen who smoke enjoyed the Havanas, kindly donated for the occasion by the Senger Drug Co. Five minutes later the halls were vacated except for eddying and floating smoke from the Havanas.

Members present: Cooley, Clark, Wilkinson, Fisher, Dice, F. N. Cloyd, R. C. Cloyd, S. W. Jones, Solomon Jones, L. V. Fairhall, Clay, Russel, Mason, Crist, Dale, McIntosh, W. K. Newcomb, president of Illinois Medical Society, Geo. T. Cass, guest, Tennery, Hooker, J. M. Guy, Babcock, Clements, Steely and Walton.

SOLOMON JONES, Secretary.

Book Notice

NOSTRUMS AND QUACKERY. Based on articles on the Nostrum Evil and Quackery in *The Journal* of the American Medical Association, with additions and elaborations. Part I, Quackery. Part II, Nostrums. Part III, Miscellaneous. First Edition. Cloth. Price, \$1; with individual's name on cover, 25 cents extra. Pp. 509, with 220 illustrations. Chicago: American Medical Association, 535 Dearborn Avenue.

Every physician whose patients ask for information regarding the efficacy of certain "patent medicines," advertising specialists or other quack treatments, and every layman who desires information on the same subjects, will find "Nostrums and Quackery" an invaluable volume. This means that practically all the medical men and a large proportion of the public have use for a book of this kind. In the last few years *The Journal* of the American Medical Association has published a number of articles dealing with the "patent medicine" evil and quackery. The book "Nostrums and Quackery" contains all such articles, elaborated in many cases and embellished with numerous illustrations, while in addition it contains some matter never before published.

The articles in the book do not deal with generalities. They are specific and to the point; they call a spade a spade. The investigations have been made with a thoroughness that leaves the reader in no doubt as to the fraudulence of the quacks' claims or the worthlessness of many "patent medicines." Furthermore, the statements are authoritative, for it is evident that the Association could not afford to speak as plainly as it does if it were not absolutely sure of the facts. In many instances chemical analyses, made in the Association laboratory, are given.

The book consists of three parts, Part I devoted to quackery, Part II to nostrums, and Part III to miscellaneous subjects. These parts are again divided. Under Quackery, for example, we find sections devoted to "Advertising Specialists," "Cancer Cures," "Consumption Cures," "Female Weakness Cures," "Medical Institutes," and other concerns of a similar nature. Under Nostrums there are sections devoted to "Asthma Cures," "Cough Medicines," "Hair Dyes," "Laxatives," "Obesity Cures," "Rheumatism Cures," and other typical nostrum groups. In the Miscellaneous section there are discussed such subjects as "The American College of Mechano-Therapy," "Patent Medicine Makers and the Press," "Molding Opinion in Food Preservatives," and others of equal interest and importance. In fact, the book is not only a *vade mecum* on the nostrum evil but a veritable "Who's Who" in quackdom.

"Nostrums and Quackery" is published primarily to enlighten the public regarding fakes and fakers. It is a duty of every physician to see that his patients become familiar with the contents of this book. The Association is prepared to furnish it in quantities at a very low figure; it also supplies a copy intended for use in the reception room, with the physician's name printed thereon.

NEWS OF THE STATE

NEWS

—Dr. Wm. R. Magum of Buncombe, Ill., has recently located in Maryville.

—The doctors of Alton have arranged to give a series of health talks to the students of the Wood River High School.

—Dr. Rice will start on a trip around the world December 1. When he reaches Berlin he will take a course of study on internal medicine.

—By the will of the late Emanuel Frankenthal, Chicago, \$2,000 is bequeathed to St. Luke's Hospital, and a similar amount to Michael Reese Hospital.

—Dr. J. Estell Miller, of Pittsfield, Ill., has moved to Quincy, where he will be associated with Dr. J. H. Rice. Dr. Miller will confine his work to surgery and gynecology.

—Dr. W. E. Reid of Marion, Ill., who has been practicing osteopathy for the past eight years, has entered upon his senior year at Barnes Medical College for the study of medicine.

—At the annual meeting of the officers of Proctor Hospital, Peoria, Mr. Oliver J. Bailey was reelected president. A memorial tablet was placed in the hospital in memory of Dr. John Murphy.

—The village council of Oak Park, Ill., has refused permission to build the West Suburban Hospital in that village, on the ground that the management had failed to obtain the necessary consent of the neighbors to the erection of the building.

—The Chicago Tuberculosis Institute announces that no solicitors are employed by them to collect money for the organization. The reason for this announcement is that two men are reported to have been soliciting money for the alleged benefit of that institute.

—Dr. and Mrs. Edmund F. Cleveland, Dundee, have announced that they will furnish the dormitories on the first floor of Sherman Hospital, Elgin, now occupied by the nurses. The dormitories are to be remodeled and divided into six rooms which will be used as wards for women and children. The gift is in memory of their daughter.

—Dr. E. W. Fiegenbaum of Edwardsville, secretary of the Madison County Medical Society, has begun procuring data for a contemplated biography of all physicians who have practiced in Madison County during the last century. There are about 1,000 names, and the work may require several years.

—The Chicago Medical Society plans to give neighborhood health lectures throughout the city during the winter months. Public lectures have been given in the public library in previous years and it is now proposed to extend the scope of these lectures by having talks along health lines made in the various sections of the city and in school houses, if they may be obtained from the board of education.

PERSONAL

Dr. Hervey L. Hensley, Oakwood, is reported to be critically ill.

Dr. William S. Sadler, Chicago, sailed for Europe, September 23.

Dr. and Mrs. Chas. S. Bacon of Chicago have returned from Europe.

Dr. and Mrs. Arthur H. Geiger of Chicago have returned from Europe.

Dr. and Mrs. Alexander H. Stevens of Chicago have returned from Europe.

Dr. John Ridlon, Chicago, has been elected consulting surgeon of the Newport (R. I.) Hospital.

Dr. Charles R. Spicer, Aurora, has been elected chief medical examiner of the Yeomen of America.

Dr. J. N. Thresh, Danvers, who has been ill at St. Francis Hospital, Peoria, has returned convalescent.

Dr. and Mrs. Benjamin Gleason and children of Danville have returned from a six months' trip to Europe.

Physicians of Mattoon gave a dinner September 14 in honor of Dr. Cleaves Bennett, who has moved to Champaign.

REMOVALS

Dr. O. F. Blakely has removed from Urbana to Fairfield, Ill.

Dr. Loran E. Orr has removed from Tallula, Ill., to Petersburg.

Dr. F. H. Deane of Hindsboro, Ill., has removed to Humboldt, Ill.

Dr. R. G. Cottrall of Cedar Rapids, Iowa, has located at Savanna, Ill.

Dr. J. E. Beck has removed from Coal City, Ill., to Arkansas City, Kan.

Dr. A. C. A. Gaul has removed from 5732 Kenmore Ave., Chicago, to Seattle, Wash.

Dr. Harry O. White of 703 Ashland Blvd., Chicago, has removed to Ocean Park, Cal.

Dr. J. D. Hadden of Chicago has removed to 4929 Pasadena Ave., Los Angeles, Cal.

Dr. Frances J. Buss of 5200 Washington Blvd., Austin, Ill., has removed to 140 Rogers Ave., Chicago.

Dr. Curtis Brown of Marion, Ill., has removed to Colorado, where he will take up the practice of medicine.

Dr. D. E. Ricardo has removed from 4624 Vincennes Ave., Chicago, to Cincinnati, O. Virginia Flats, Rockdale Ave.

PUBLIC HEALTH

—Dr. George W. Boot, president of the staff of St. Francis Hospital, Evanston, announces that the hospital has arranged for a free clinic for school children needing attention on account of conditions found by the school inspectors. The clinic will be held each Saturday at 1:30.

—The Springfield Tuberculosis Association held its first clinic between 5 and 6:30 p. m., September 14, at the dispensary, 717 East Washington Street. Evening clinics are held every Thursday to accommodate patients who are unable to attend during working hours.

—The following detailed statement of infant mortality from diarrheal diseases for the months of July, August and September, 1911, compared with the same months of 1910, shows a net reduction of 362 deaths the past summer. Of this decrease, 311 occurred in the wards covered by the Infant Welfare Service. This was a decrease of 21.4 per cent. as compared with a decrease of less than 15.5 per cent. in the better residence wards in which the welfare service was considered less urgent. The above showing is gratifying to the Health Department and to different organizations interested in the work of saving Chicago's infants. The weather in May and June of the past summer was considerably hotter than in the corresponding months of 1910. The welfare workers anticipated greater difficulties this year in keeping down the infant mortality, but were remarkably successful in spite of the early heat. The temperature from July to September was practically the same both summers.

Ward	1911			1910			1911 Reductions,
	Under 1 Year	1 to 2 Years	Total Under 2 Years	Under 1 Year	1 to 2 Years	Total Under 2 Years	
1.....	9	1	10	12	4	16	6
2.....	8	0	8	15	2	17	9
3.....	10	4	14	12	0	12	* 2
4.....	43	8	51	51	14	65	14 N
5.....	48	11	59	55	12	67	8 N†
6.....	3	1	4	8	0	8	4
7.....	10	0	10	7	1	8	* 2
8.....	60	14	74	83	30	113	39 N†
9.....	42	6	48	47	11	58	10 N†
10.....	38	6	44	49	4	53	9 N†
11.....	67	17	84	63	9	72	* 12 N
12.....	77	9	86	102	18	120	34 N†
13.....	15	1	16	8	3	11	* 5
14.....	31	6	37	34	6	40	3 N†
15.....	20	3	23	24	6	30	7 N
16.....	65	18	83	71	22	93	10 N†
17.....	105	19	124	145	42	187	63 N†
18.....	16	0	16	15	1	16	0
19.....	63	7	70	54	10	64	* 6 N†
20.....	14	3	17	17	1	18	1
21.....	10	1	11	12	0	12	1
22.....	38	8	46	53	19	72	26 N†
23.....	24	1	25	19	3	22	* 3
24.....	29	4	33	34	7	41	8 N
25.....	5	3	8	15	0	15	7
26.....	13	5	18	22	5	27	9
27.....	21	5	26	54	11	65	39 N
28.....	35	2	37	39	11	50	13 N
29.....	108	26	134	133	21	154	20 N†
30.....	23	4	27	33	4	37	10 N
31.....	17	2	19	23	4	27	8
32.....	9	2	11	16	8	24	13
33.....	43	9	52	52	16	68	16 N†
34.....	15	2	17	26	4	30	13
35.....	21	1	22	12	4	16	* 6
Hospitals, no city address.....	48	2	50	45	3	48	* 2
Totals.....	1,203	211	1,414	1,460	316	1,776	362

* Increase. † Wards in which the Infant Welfare Service was continued in September. "N" Wards marked N were covered in whole or in part by the Welfare Service in July and August.

—From Bulletin Chicago Department of Health.

MARRIAGES

BERT P. COLE, M.D., to Miss Rose Persinger, both of Kenney, Ill., September 8.

JOHN J. KERWIN, M.D., to Miss Helen Marie White, both of Chicago, September 12.

AMZIE S. PLUMMER, M.D., to Miss Bessie I. Pitney, both of Peoria, Ill., September 6.

HARRY LORENZO JAMES, M.D., Springfield, Ill., to Miss Mildred Falk of Chicago, January 14.

RALPH C. HAMILL, M.D., Chicago, to Miss Margaret Hunt of Winnetka, Ill., September 2.

HENRY JAMES REYNOLDS, M.D., Chicago, to Mrs. Caroline W. Reid of Ottawa, Ill., October 4.

GEORGE LUTHER DAVENPORT, M.D., to Miss Eva Beulah Griffith, both of Chicago, September 12.

JOHN ARTHUR TURNER, M.D., Waukegan, Ill., to Miss Hazel Irene Kline of Chicago, October 5.

EDITH GRACE GRANT, M.D., Greenup, Ill., and Fritz William Graff of Marshall, Tex., August 23.

ARTHUR H. R. KRUEGER, M.D., to Miss Grace Wolter, both of Carpentersville, Ill., September 27.

ARTHUR M. BISHOP, M.D., Chicago, to Mrs. Della Robins Burnett of Good Hope, Ill., at Galesburg, August 26.

GUSTAV LEONARD KAUFMANN, M.D., Chicago, to Miss Muriel Gregory of Fredericton, N. B., Canada, September 4.

ARTHUR WILLIAM STILLIANS, M.D., Chicago, to Miss Therese Spitler of Vienna, Austria, in New York City, July 24.

OBITUARY

DR. LEE SMITH, born near Hudson, McLean County, Ill., May 8, 1832; raised on the farm; early education received in subscription school, later attended the Illinois Wesleyan, being a member of the first graduating class. Graduated from Rush Medical in 1856, practiced one year in Hudson, then came to Bloomington, where he practiced up to the time of his death, Oct. 16, 1911.

An honored member of the medical profession in Bloomington for over a half a century, and a member of the McLean County Medical Society for the past fifty-five years, has been promoted to the Great Life Beyond, having departed this life at 4:45 p. m. Monday, Oct. 16, 1911.

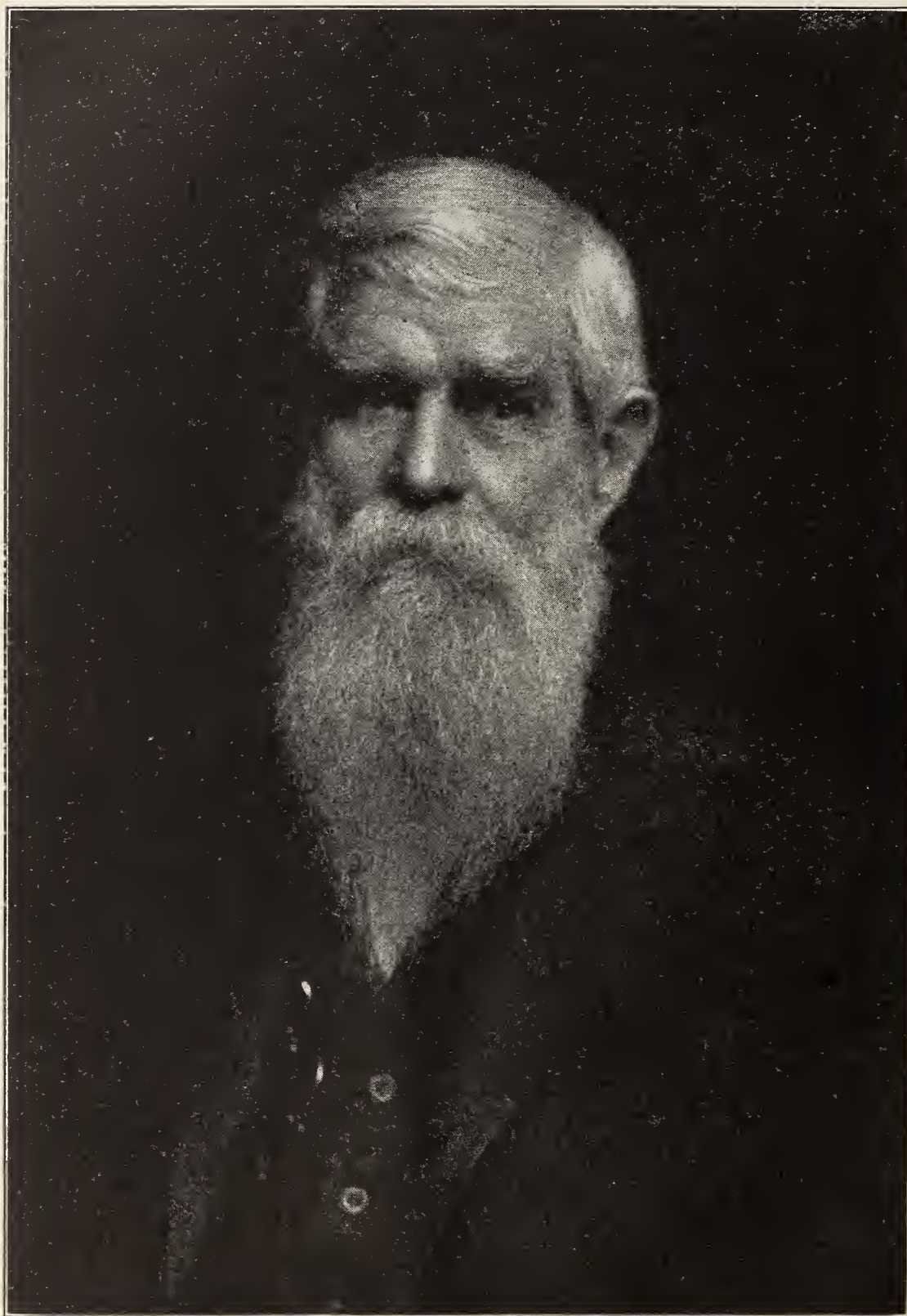
The medical profession of Bloomington mourn the loss of so noble a character, as he always "went about doing good."

With the passing of Dr. Smith we lose one of the old-time family physicians who never placed professional services on a financial basis but answered every call and entered into the sympathies of the family, weeping with those who weep and rejoicing with those who are glad.

The doctor rounded out this life beautifully. Only Friday before his death he visited a patient, returned home and took to his bed from which

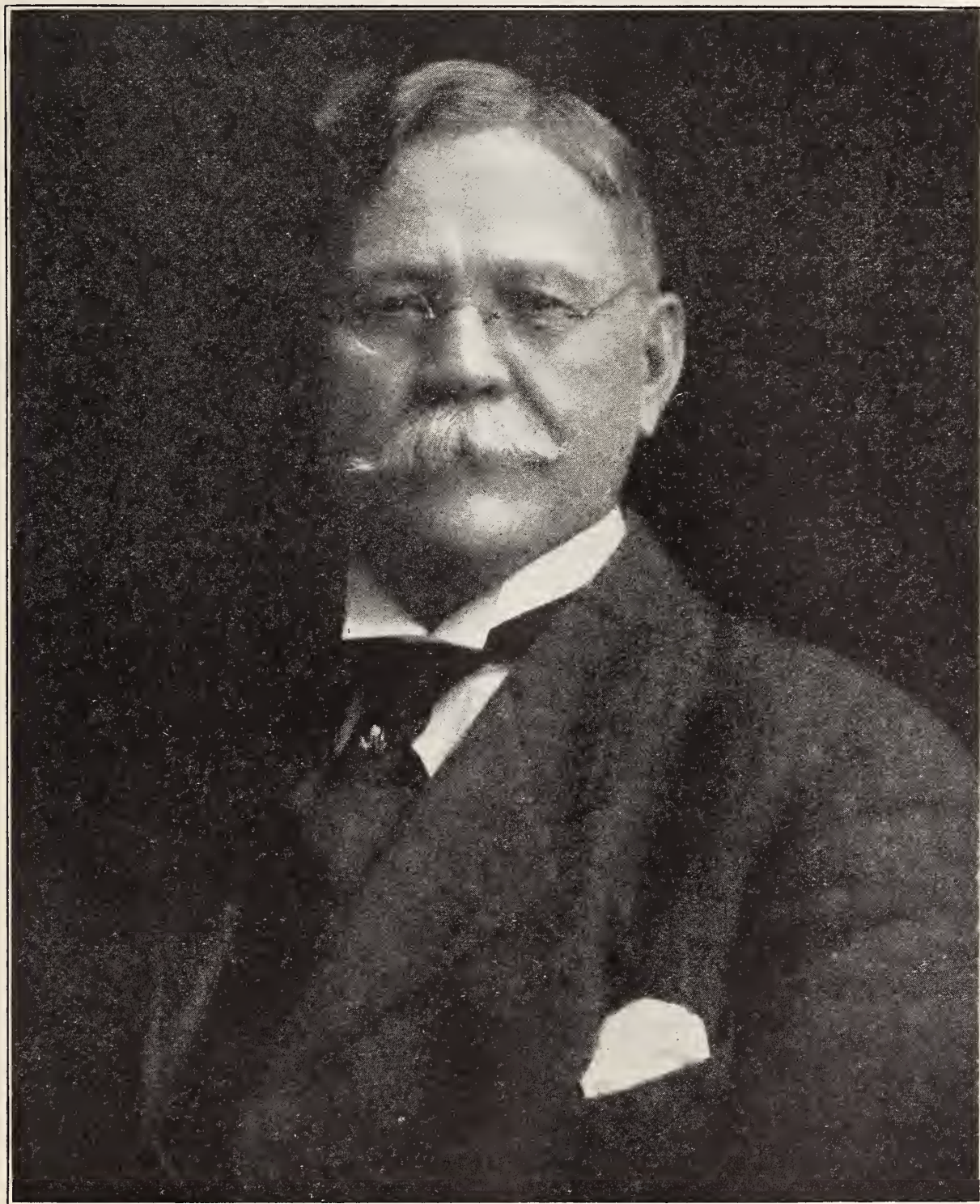
he never arose. Had he lived until next May he would have lived four score years; a long life filled with noble deeds.

McLEAN COUNTY MEDICAL SOCIETY,
THOS. D. CANTRELL, Secretary.



Ed Smith

ALEXANDER HUGH FERGUSON, a prominent surgeon of Chicago, died at his home in that city October 20, from diabetes, aged 58. He was born in Ontario and was an honor graduate of the Medical College of Trinity University in 1881. He began practice in Manitoba in 1882, where he remained until 1894, when he moved to Chicago. He was one of the founders of Manitoba Medical College, Winnipeg; for three years was



professor of physiology and histology in the institution and for eight years thereafter professor of surgery. In 1894 he was made professor of surgery in the Chicago Post-Graduate Medical School and Hospital, and since 1900 had been professor of clinical surgery in the College of Physicians and Surgeons.

His society membership included the American Medical Association (in which he served as first president of the Manitoba branch), Chicago

Medical Society (of which he was president in 1910), Western Surgical and Gynecological Society (of which he was once president), the American Surgical Association and other learned societies. In 1906 Dr. Ferguson was honored by the king of Portugal with the decoration of Commander of the Order of Christ of Portugal. His hospital appointments included those of surgeon to the Winnepeg Hospital, surgeon in chief to St. Boniface Hospital and chief operator at Brandon and Morden hospitals, Manitoba, and after his removal to Chicago he became surgeon to the Post-Graduate Hospital and Cook County Hospital for the Insane and also was surgeon in chief to the Chicago Hospital.

Dr. Ferguson had suffered from an attack of furunculosis for some weeks before his death, and from a myocarditis and pericarditis, and later thrombo-phlebitis of veins of both legs and general staphylococcus infection. He finally succumbed to uremia and edema of the lungs.

DEATHS

ROBERT GORDON, M.D., McGill University, Montreal, 1868; for thirty-five years a practitioner of Arlington, Ill., died in Seattle, Wash., August 8, aged 69.

HENRY T. WHITING, M.D., Chicago Homeopathic Medical College, 1883; died at his office in Rockford, Ill., September 13, from acute gastritis, aged 73.

HARVEY L. HENSLEY, Physio-Medical College of Indiana, Indianapolis, 1907; died at his home in Oakwood, Ill., September 19, from typhoid fever, aged 37.

ARNOLD CARPENTER DAVIS, M.D., Hahnemann Medical College, Chicago, 1881; died at his home in Farina, Ill., September 15, 1910, from acute enteritis, aged 71.

FRED WILLARD LESTER, M.D., Rush Medical College, 1879; for several years a practitioner of David City, Neb.; died at his home in Aurora, Ill., August 24, aged 57.

JAMES G. W. ENTWISTLE, M.D., Albany (N. Y.) Medical College, 1883; formerly of Chicago; died at his home in Canton, Ill., September 1, from pernicious anemia, aged 69.

ADA BENTON MORGAN, M.D., Hahnemann Medical College of Chicago, 1894; died at her home in Ridge, a suburb of Chicago, September 23, three days after an operation for appendicitis, aged 52.

GUY CLIFFORD POWELL, M.D., Louisville (Ky.) Medical College, 1898; of Peoria; a specialist on diseases of the ear; died in Presbyterian Hospital, Chicago, August 25, from rheumatic endocarditis, aged 42.

WILLIAM S. BROWNE, M.D., Bennett Medical College, Chicago, 1875; formerly of Watseka, Ill.; a member of the Illinois State Medical Society; died at his home in Opolis, Kan., August 21, from cerebral hemorrhage, aged 61.

GEORGE WM. REYNOLDS, M.D., University of Buffalo (N. Y.) 1880; Rush Medical College, 1897; for many years a member of the American Medical Association; chief of the gynecological staff of St. Joseph's Hospital, Chicago; died in that institution, September 9, from chronic interstitial nephritis, aged 57.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED AT THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER

VOL. XX

SPRINGFIELD, ILL., DECEMBER, 1911

No. 6

ORIGINAL ARTICLES

THE ABUSE OF LOCAL TREATMENT IN GYNECOLOGY *

HENRY T. BYFORD, M.D.

CHICAGO

When a woman consults a doctor for the relief of pelvic inflammation or its results she generally wishes to be cured, or at least relieved, without having to submit to an operation. In order to advise her intelligently he must make an approximately accurate diagnosis, must determine how much her habits and mode of living have to do with her suffering, what operative procedures may be necessary and what their effect will be in relieving her, what local and general treatment is indicated and how much it will accomplish.

In this communication I will confine myself mainly to a discussion of the ordinary local treatment and what it can accomplish, and incidentally touch on the general management of the case.

The medical student is apt to consider gynecology of chief value as a means of acquiring credits for a degree, but after he has practiced medicine a few years he learns that it is the source of a large part of his income, and he may then perhaps regret that he and the medical school had not given more time and attention to the subject. When he graduates his available knowledge of non-operative gynecology is confined mostly to a recognition of characteristic symptoms and a familiarity with the routine dispensary treatment. When the patient comes to his office complaining of backache, pain in the iliac regions, leukorrhea, etc., he makes a digital and speculum examination, discovers or imagines or invents a disease and communicates it or, rather, its name to the patient. He then applies tincture of iodine or phenol to the cervix, introduces a more or less septic glycerin, boroglycerid or ichthyol tampon and orders copious hot vaginal douches. If her trouble is three-quarters mental she may begin to improve and in the course of time be able to attend to her

* Read before the Annual Meeting of the Illinois State Medical Society, held at Aurora, May 16-18, 1911.

duties as before. If her trouble is two-thirds physical she may not improve very much and the doctor, after a long siege of scientific tactics, takes her to a specialist with the statement that he has given local treatment a thorough trial, and that it is of no use. In the first case she is out of order mentally and physically, including the pelvic regions, and when her functions and feelings improve she attributes the relief to the local treatment. In the other case she is subjected to an operation without having had the benefit of intelligent treatment either general or local. In the first case she may have some chronic inflammation, or results of inflammation, that had not interfered with her enjoyment of life until physical overexertion, with or without disturbances of bodily functions and mental worry or exhaustion, have brought her pelvic disorder into prominence. By a regulation of her habits and intelligent general treatment she could have been put back into her previous condition of comfort even without local treatment. In the second case intelligent local treatment combined with the proper therapeutic and hygienic measures might have told a different story and saved her from the willing and obedient surgical consultant.

In order to appreciate how intelligently she has been treated, let us take up one by one the ordinary things that are done to her by the average practitioner in rural and suburban districts, and sometimes in medical centers. Let us consider first the routine application of the tincture of iodine or phenol to the cervix. Simple and papillary erosion are often due to the macerating influence of an alkaline uterine discharge on the hyperemic vaginal portion that normally is barely moistened by an acid, slightly antiseptic, secretion. Tincture of iodine applied to such a cervix does not prevent the action of the alkaline bath nor fortify the epithelium against it. Phenol, if it happen to be used, may temporarily harden and fortify the epithelium but the erosion will often reappear after, if not before, its use is discontinued. Iodine or an alkalinized phenol or cresol may penetrate the folds and glands of the arbor vitæ and cure simple cervical endometritis, but when the racemose glands are plugged with thick mucus or have become occluded and cystic, the remedy cures only a part, a very superficial part, of the trouble. It does not penetrate the glands and cysts in effective amount. The mucus must be expressed or the cysts punctured and then the application must be strong enough to obliterate the cyst cavities. Thus it is evident that the routine indiscriminate application of iodine or phenol to the cervix is almost useless in a large proportion of cases.

Abstraction of blood from the congested looking cervix in a case of chronic metritis is another, although less frequently employed, irrational measure. Sick women usually lose as much blood every fourth week as is good for them to lose, and to abstract an ounce to two twice a week during the other three weeks is an expensive remedy for her, physically considered, in face of the fact that in the upright or even recumbent position the blood-pressure will restore the hyperemia in a few minutes. To abstract blood for an acute congestion is a different thing.

Glycerin and ichthyol tampons are almost universally recommended by the books and employed by the readers of the books, although not always by the writers. The glycerin is supposed to deplete the uterus or pelvis, or something. That it draws a little water from the glands or subepithelial capillaries or some place, and that it macerates the epithelium for hours, may be mildly admitted. But what effect it can have in depleting the abundant anastomotic pelvic circulation, against the force of gravity and physical exertion, is hard to explain. Its method is osmotic and slow, and its effect superficial and slight. Glycerin solutions of ichthyol cannot penetrate deeply, for most of the ichthyol is washed away with the glycerin and most of that absorbed is washed into the general circulation. The near-by lymphatics may get a minute dose, but the sulphur in this minute quantity of ichthyol would be of homeopathic efficacy. The tampon, if left in place very long, becomes a source of mechanical and septic irritation that destroys the slight effect of the ichthyol on the superficial tissues.

As a support the tampon is not worth the price of the treatment because, if hard enough to give efficient support, it cannot be worn continuously without producing injurious pressure, to say nothing of becoming offensive. It must at least be removed at night, and the patient cannot usually afford the time or money, if it were worth while, to have it properly put in by the physician every morning. Nor can she properly place it herself. Some patients push a little wad of cotton into the vagina and become so accustomed to its pressure that they do not feel comfortable without it. It separates the posterior vaginal wall from the anterior, and when taken out leaves a temporarily unsupported anterior wall. The patient considers that the temporary discomfort is due to the absence of the tampon rather than to the harm it has done by its pressure and displacement of the parts.

A few years ago the old fashioned copious vaginal douche, used almost hot enough to cause an artificial sunstroke, made the lives of a large minority of our American women miserable, and it is still recommended in some of the text-books. But with all of her efforts the patient only succeeded in overheating her blood as it rushed through the pelvis to the upper part of the body, without obtaining contraction of the pelvic blood-vessels longer than a few minutes at a time. To maintain the contraction of the vessels the heat must not only be continued but, as the nerves become accustomed to it, must be increased in order to keep up the stimulating effect. The limit is soon reached and the blood begins to return to its old channels as before. When the patient assumes the erect position the vessels are filled almost immediately. Heat might have some permanent effect in subacute inflammation or in a case of a sudden congestion in a bedridden patient. I have used it in hundreds of chronic cases month after month (and some patients have continued its use year after year) without getting any better effects than I get from ordinary warm douches large enough to wash away irritating discharges. When used to increase the pelvic circulation I can understand how they may aid in the absorption of recent exudates.

Medicated douches are usually failures because their effect as ordinarily used is too temporary in effect. But if used rationally, viz., often enough and long enough to remove the septic discharge and to maintain their local effect on the membrane with which they come in contact, they are of course useful in the vagina as elsewhere.

The question might be asked, "What would you do in place of local treatment in order to keep the patient out of the hands of the osteopath, Christian scientist and other popular and more or less successful therapeutic faddists?" I would answer by saying that I would go the faddist one better. I would not only relieve the patient's mind of the fear of disease but I would also explain her condition to her in a simple way so that she could cooperate with me intelligently in carrying out the necessary treatment. In case an operation might be of any benefit I would explain to her what it would accomplish and what relief she might expect. If she did not wish an operation or if an operation were not necessary I would find out what brought on her new attack and teach her to conduct herself so that improvement might take place and, subsequently, tell her how to live in accord with her limitations.

In certain cases patients who have been able more or less comfortably to attend to their domestic duties are made worse by house cleaning, house hunting, moving, attending the sick, shopping, entertaining company, or other forms of physical strain. I teach them to avoid these strains. In order to recover from the effects of overdoing I have them lie down a portion of the day for the purpose of relieving the pelvic pressure due to the erect posture as well as to give the brain the benefit of increased cerebral circulation. When they begin to resume their domestic duties I impress on them the necessity of lying down for a certain period each day, of quitting certain kinds of work, keeping off the feet as much as possible, avoiding constipation, sexual activity, etc. Tonics, hydrotherapy, a regulated diet and other therapeutic measures to put and keep her in the best state of health and comfort should of course not be neglected.

There is a class of cases in which there are no adhesions or exudates and the conditions are not injured by exercise. The symptoms are due to ptoses, debility, catarrhal inflammation, and the patients require rest for the debility in connection with a gradually increasing amount of out-door exercise. Some of them complain a great deal and can hardly be stopped complaining by anything short of Christian science. Something besides routine local treatment is required to help them and hold them.

I am not attempting to tell all that can be done beside local treatment but merely to call attention to methods. Each case will have to be individualized and treated according to its needs and the physician's resources. Medical knowledge is as necessary for the gynecologist as surgical training. The exclusively surgical gynecologist is only a half gynecologist.

If asked what I would recommend locally after thus condemning ordinary local treatment, I would advise first to avoid making the patient's life uncomfortable and impressing her disease on her mind by giving her,

or having her carry out, any local treatment that would not benefit her materially. The notion that a patient should be kept busy doing something in order to magnify the importance of the treatment may do for a brief period for mental effect, but it puts us at a great disadvantage compared with the Christian scientist. If there is a urethritis or vaginitis, I could treat it on the same principle as an inflammation elsewhere. If there is a cervicitis, I could make the proper application, but not apply tincture of iodine or any single remedy in all cases. If there is an irritating vaginal discharge I would use a douche once or twice a day so medicated as to counteract it and large enough to clear it out, but would not bother to overheat the patient by the old fashioned thermal douche.

Endometritis, excepting those cases that demand curettage, seldom needs any local treatment except to insure efficient uterine drainage through the servix. The development of the treatment of chronic non-septic endometritis is at present being made by paying attention to the conditions of organs and tissues outside of the uterus as well as the so-called general conditions. Cases of old adhesions of the uterine adnexa with rigidity of the uterine ligaments and the consequent interference with the pelvic circulations are often made worse by uterine applications and vaginal tampons, and unless complicated by disease of the cervix or external organs they do better without any local treatment. We do them the most good by doing them the least harm.

In conclusion I would say that:

A large part of the local treatment made use of by the practitioner is useless, and should not be imposed on the patient.

The generally accepted treatment should be simplified and restricted to definite indications.

Cases that cannot be benefited by local treatment may often be materially helped and made useful and comfortable without it, even when they cannot have the benefit of an operation.

Cases that require an operation for their cure, but cannot avail themselves of it immediately if at all, do not necessarily require local treatment.

Patients whose symptoms are partly imaginary or due to nervous or other influences should not be treated locally merely to keep them busy, nor to keep the doctor busy.

DISCUSSION ON PAPERS OF DRS. BYFORD, CULBERTSON, CONKLIN AND HEINECK

Dr. Thomas J. Watkins, Chicago: I can only touch on a few points in the four papers that have been read. When the name of Sims is mentioned, as was done by Dr. Conklin, in connection with the operation of vesicovaginal fistula, much of the development of the operation is covered, as Sims was the father of the technic of vesicovaginal fistula. He has so perfected the operation that we have not added very much to it. We have found the metal suture which accomplishes so much was of value, because it had no capillary absorption qualities. Silkworm-gut suture has the same feature and has largely taken the place of silver wire. There is an objection to the use of buried sutures on account of the danger of infection from contamination with urine. An improvement has been made over the Sims operation, in that we have learned how to loosen up the bladder walls

by blunt dissection and permit the edges of the bladder to be brought together without much tension, thereby simplifying the operation very much and increasing the probabilities of primary union. Emmet did very much to perfect the operation of vesicovaginal fistula. One of the most important things in Emmet's technic was in making a long line of suture, so that there would be no folds in the mucous membrane at either end of the line of suture.

Dr. Culbertson's paper is very practical, and gives little opportunity to detract or add to it.

I think what Dr. Culbertson has said is very important as regards prolapse and cystocele. What he said about passive exercise during the puerperium is extremely valuable. What he said about keeping women off their feet until involution has taken place was important. The woman who returns to work, however, too soon after labor is nearly always the woman who is forced from her social state to do so.

I would like to subscribe to what Dr. Byford has said about the inefficiency of most topical applications in gynecology. They are very largely inefficient. They often do more good by mental suggestion than anything else, and there is danger in this doing harm, as Dr. Byford mentioned, by suggesting troubles that a patient may not have. It is rather absurd to try to cure diseases of the ovaries and tubes by the application of heat, cold or medicine to the vaginal blood-vessels, because the vaginal blood-vessels and the vessels and lymphatics of the ovaries and tubes are anatomically so far separated.

One would not think of making a hot application of water to an injured wrist for ten or fifteen minutes once or twice a day, and think he was giving that patient logical treatment, and yet that is what has been done in gynecology. There is a limited field for the use of the pessary. There is also a limited field for the treatment of chronic gonorrheal infections of the urethra, vagina and uterus. In these cases, however, the gynecologist has to admit that his treatment is very far from satisfactory; that he has not added very much to what we had a number of years ago. The hope lies in the more efficient treatment of the gonorrheal infections during the acute period, and thereby diminishing the number of chronic cases of infection.

Dr. O. B. Will, Peoria: My name appears on the program in connection with the prospective discussion of the subjects just presented; but I have little to say, particularly for the reason that the short time allotted is an additional handicap to one whose thoughts are formulated as slowly as are my own. Nevertheless, I wish to touch on a point or two brought out in the paper of Dr. Byford respecting the abuse of so-called "local treatment" in gynecologic conditions.

The American people are to-day busy in ferreting out and attempting to rectify abuses of all kinds, and the medical profession are not, and should not be, backward in that line of procedure. There is abundant reason for movement in that direction. Nevertheless, I am persuaded that there is more excuse for the general practitioner in connection with the abuses complained of than there is for many of assumed experts in various lines. What blame there is, I believe, lies primarily with the specialists. For instance, when your speaker entered the field some forty years ago, it was averred that no measure equaled in efficiency the application of hot water, in the form of prolonged douche, in all congestive and inflammatory pelvic disorders. That was taught, not by the common practitioner, but by the specialist. The former incorporated it in his practice and found it useful, and has continued it in favor in spite of the changed teachings of many respecting it. The same may be said of the various forms and ingredients of vaginal tamponade, chemical cauterants, electricity, etc. The general practitioner can hardly be expected to keep pace with the numerous conclusions to the contrary, of many who are either totally unfamiliar with the virtues of preceding practice, or far in advance in form, if not in substance, in their advocacy of modified measures.

The value of a remedy depends as much on the comprehension of the man who uses it, as on its innate qualities. The fact that any procedure is abused is evidence of its utility. Nothing that is inefficient and useless is abused. Recogni-

tion of abuse is *prima facie* evidence of value, and the latter rests largely with the qualifications of the practitioner.

About every decade we have an almost complete change in therapeutic ideals. Nothing is done to-day as it was twenty years ago, and probably nothing will be done ten years hence as it is done to-day. And yet history repeats itself in therapeutics as in all else, and no one need be surprised to note in the course of another generation or two reversion to forms of treatment now discarded, but full of virtue in the hands of men who know how to handle them, many of whom even now exist, but whose self-dependence and self-assertion are overshadowed for the moment by current philosophies. It is of little consequence, for instance, whether the theory of the depletory action of glycerin tampons, or that of its mental suggestion, be the correct one, in so long as relief is obtained, for that is what the practitioner is seeking. It is what the patient wants. The treatment instituted may not be the most potent, but for the time being is the most practical. No doubt such abuses as those spoken of exist, but their correction is a slow process. Dr. Byford has done well to call attention to them.

Dr. Carl Beck, Chicago: I suppose I was placed on the program to discuss the healing of fistula. Vesicovaginal fistula is not the same as other fistulas. A fistula that connects the bladder with the vagina has a short tract, and this is pre-eminently the fistula which has to be treated by surgical methods, and hardly any other conservative method will close it, particularly when it is allowed to go on for some time. But there is one thing I would like to say in regard to the treatment of fistula that is recent. If some one has the misfortune of rupturing the bladder during operation or in treating the same, I think the fistula will take kindly to healing if we can prevent the constant flow of urine over the ruptured surface, and there has been a good suggestion made from several parts of Germany and from this country relative to the suction treatment of the bladder, that is, introducing a catheter and drawing off the urine by suction. It is a simple method. You simply take two bottles, one placed on a high plane, and another low, making suction from one bottle to the other, and connecting the upper one with the catheter, thus producing constant suction, and in that way preventing the flow of urine over the surface and causing the fistula to heal.

I have had experience with recent fistulas, and they did not require any surgical treatment. They were not very extensive.

The paper of Dr. Heineck contained some very interesting points. His experience does not agree exactly with the experience of others who have had something to do with such cases. I only saw one case of this kind, and that was an extrauterine pregnancy, with prolapse of the tubes and hemorrhage, and it was very puzzling at the time we observed it. But I should judge from the literature and from what I know about the subject from a pathologic standpoint, that these tubes and ovaries being in most cases connected with other abnormalities of the genito-urinary tract, have to be removed and ought to be removed. I think they have some resemblance to the incarcerated testicle which may be transformed very often into a growth, not a sarcoma particularly, but ovarian sarcoma might occur in such a prolapse, and the incarcerated organ may be the cause of the incurable disease.

Dr. Clifford U. Collins, Peoria: I want to speak briefly on the repair of vesicovaginal fistulas. It seems to me there are three principles involved in the repair of these lesions:

First, a wide separation of the vaginal from the vesical mucous membrane. If this separation is made wide and thorough and the opening closed without tension, the non-absorbable sutures, such as silkworm gut and silver wire, will not be required.

Second, the placing of the sutures. If the opening is small, say one-eighth to one-quarter inch, three superimposed purse-string sutures will raise a cone in the floor of the bladder with the fistulous opening on top. If the opening is larger than one-quarter inch in diameter, three superimposed continuous sutures placed transversely or longitudinally will bring the broad surfaces into approximation and raise a ridge on the floor of the bladder with the fistulous opening on top.

The suture material may be catgut. Personally, I use iodized catgut prepared by the Bartlett method.

Third, to keep the bladder empty by means of a self-retaining catheter of the Pezzer type. The bladder should be irrigated every day with a boric-acid solution and the catheter changed every two days. This will allow healing to take place without the possibility of the bladder being filled up and placing a strain on the sutures. If these principles are followed most of these fistulas can be closed without much trouble.

I wish to call attention to the fact that there may be some danger in an operation for closing these fistulas. We had one case in which the uterus was removed for carcinoma some months previously, and a few days afterward following a sloughing process a vesicovaginal fistula developed. After the removal of the uterus the peritoneum came in contact with the mucous membrane at the top of the vagina, and in separating the vaginal mucous membrane from the vesical mucous membrane it became necessary to also separate it somewhat from the peritoneum lying above it. The patient took sick a few hours after the operation and died in fifteen hours. The post mortem revealed the fact that she had died of septic peritonitis. The top of the cone in the base of the bladder was black and gangrenous. The peritoneum in the cul-de-sac overlying the top of the vagina was black and gangrenous. There was pus in the cul-de-sac and the intestines were red and congested, showing that the patient had died in fifteen hours from septic peritonitis—a remarkably short time.

Dr. William Fuller, Chicago: I want to add one word with reference to closing vesicovaginal fistulas. Many of them are dangerously close to the ureter, and in denuding the fistula it is well to guard against doing damage to the ureter. It is easy to avoid such an accident by passing a ureteral catheter previous to the operation and allowing it to remain till the operation is finished. I have had occasion to take this precaution and know that it will safeguard the ureter well.

Dr. A. P. Heineck (concluding): Owing to the well-established clinical fact that many tubal, ovarian and tubo-ovarian hernias are permanently and spontaneously cured during the first two years of life, operation for the radical cure of these hernias is not in the absence of complications indicated previous to the end of the second year of life. After that time we advise operation in all these hernias:

If the wearing of a truss be painful or impracticable.

If the hernia be irreducible, inflamed or strangulated.

If the hernial pedicle be the seat of torsion.

If the sac contains other viscera in addition to the uterine adnexa.

The operation which we almost always perform for the inguinal type of these hernias is the Bassini operation. It has the advantages of simplicity, safety and efficacy. Its mortality is *nil*. In the female, especially after this operation, recurrence of the hernia is extremely uncommon. It is better not to sacrifice the round ligament.

After opening the hernial sac, if the herniated tube or ovary be healthy or the seat of but slight anatomic changes, they should be returned to the abdominal cavity. These organs are too important to be needlessly sacrificed. We reduce these organs even if malformations of other genitalia coexist. If the tube, ovary or both be the seat of acute inflammation or gangrene; if they be the seat of tubercular or neoplastic disease, or, as is exceptional, the site of an ectopic gestation, they are to be removed. The removed hernial contents should always be examined microscopically. Organs which were supposed, at time of removal, to be ovaries, have been on several occasions, demonstrated by the microscope, to be testes.

Dr. Culbertson (closing the discussion on his part): I have nothing to add except to emphasize a point in the paper which I probably did not make emphatic enough; that is, an effort should be made to secure involution of the abdominal wall. That was the thing which I desired particularly to emphasize in my paper. The relaxed abdominal wall is the thing that we obtain most often as the result of pregnancy, and it is a condition that is hard to overcome in the handling of the puerperium. It is a condition to which is due a great deal of female distress,

where the fault is not recognized, because the influence of the relaxed abdominal wall in enteroptosis is not to-day regarded of sufficient importance by the average practitioner.

Dr. Byford (closing the discussion): I want to set myself right before Dr. Will. I laid no blame on the general practitioner. I did lay some blame on the text-books and spoke of medical colleges and students not paying enough attention to gynecology, on which both the surgeon and the family physician depend for a large part of their income. I would blame myself if I did not mention these things, knowing what general practitioners are still doing under instructions given years ago, and it was my endeavor to try to do something to make things right. General practitioners have come to me with patients from different towns in the state and have told me that they had used tampons, douches, iodine applications, etc., for long periods of time, and that an operation would have to be performed, when in reality neither local treatment nor an operation was necessary.

I want to say a word or two with reference to the treatment of vesicovaginal fistula. There is just one thing that makes every operator fail at times in the treatment of vesicovaginal fistula, and that is traction on the sutures. If there is traction on the sutures we will get a little pressure necrosis along the course of the sutures and consequent relaxation of their grip. Then the urine will force its way through. Sims avoided this to a certain extent by using an antiseptic suture, viz., silver, and by flattening it on the vaginal surface so that the pressure was exerted evenly and toward the incision instead of circularly. All of the maneuvers and methods that lead to success do so by facilitating or making possible the approximation of broad surfaces without undue traction on the sutures.

THE PUERPERIUM CONSIDERED AS A PERIOD OF PROPHYLAXIS AGAINST SUBSEQUENT ABDOMINO-PELVIC DISEASE *

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Just as pregnancy and labor are no longer regarded as normal physiologic processes, so the puerperium in the minds of more progressive thinkers, has come to mean more than a mere period of convalescence. In past years the family physician was content to hurry to the labor, tie off the cord and hasten away to return only if sent for in case of some complication arising on the part of the mother or child. During recent years he has been persuaded in the more progressive communities, to watch the case until the umbilical cord has dropped off and the mother is up and about some time during the second week post-partum. To-day, however, our best knowledge of the etiologic factors in gynecologic ills render it absolutely essential that we not only regard, but treat, the puerperium as a period of prophylaxis against subsequent abdomino-pelvic disorder. That child-bearing is one of the most important factors in the production of such malconditions cannot be opposed by even the most enthusiastic supporter of the antiquated "leave-it-to-Nature" school of practice.

* Read before the Annual Meeting of the Illinois State Medical Society, held at Aurora, May 16-18, 1911.

A consideration of the subject would be most incomplete without taking up first that series of physiologic phenomena known as involution. In a general way this includes the return to normal position, normal size, normal consistency, and normal structure on the part of (1) the uterus and the appendages with their ligaments; (2) the vaginal walls and the perineum; (3) the external genitalia, and (4) the abdominal wall.

1. *The Uterus and Its Appendages and Their Ligaments.*—In the uterus involution should take place rapidly. Following at once on the retraction of the muscle fibers after the termination of the third stage of labor, there should commence a true atrophy of the muscle cells and a regeneration of the mucosa. The retrograde process is complete in five or six weeks, the mucosa being again reconstructed in from three to five weeks except for that area representing the placental site, which may require a much longer period of time, occasionally as long as six months. The cervix closes to a narrow opening by the end of one week. The peritoneum is at first folded over the retracted uterus but in a few days has become smooth. The broad, round, and uterosacral ligaments are at first invariably relaxed but rapidly shorten as the uterus shrinks and the appendages descend. Ligamentary involution is rather a sudden relaxation after a prolonged and steadily increasing over-stretching, with a subsequent regaining of tone. True atrophy occurs here but in slight degree only. The pelvic cellular tissue, abundant and edematous in pregnancy, which lies between the folds of the lower broad ligament, becomes more compact in two or three days, as the result of the vascular changes by which the pelvic blood supply is markedly diminished. Involution in the tubes and ovaries is a relatively negligible factor, these organs undergoing little change, even that of edema, and suffering from subinvolution only as the uterus and the ligaments are deficient in that process.

2. *The Vaginal Walls and the Perineum.*—While the changes of pregnancy in these structures consist chiefly in a more or less marked edema, there being no true muscular hypertrophy, yet, as a result of the intense strain on the softened structures during the second stage of labor, when the muscle fibers and fascial sheaths are overstretched, split apart or positively bursted, proper involution is most essential to a future integrity of the pelvic floor. The importance of this factor with respect to subsequent abdomino-pelvic disturbance, has been repeatedly and definitely determined and need not be more than reiterated at this time. The vaginal rugæ return about the third week post-partum and the structures are firm and tonic again where labor has been purely physiologic.

3. *The External Genitalia.*—The relatively slight edema rapidly disappears and after seventy-two hours the labia are normal in size and form. The fourchette is probably destroyed as is the hymen. Varicosities if slight, often disappear; if marked, or previously existing, they persist in some degree.

4. *The Abdominal Wall.*—Involution here is a process quite different from that occurring in the uterus. The important structures, physiologically, are the muscular and fascial layers and in pregnancy these are

merely stretched and distended. The fascia permits a general bulging, the recti abdominales stretch and separate proportionately to the degree of intra-abdominal pressure exerted. Tone, elasticity, resistance and distensibility are the properties offered by this wall wherein it fulfils its purpose of supporting the abdominal viscera. In the changes due to pregnancy, marked as they may be, there is no appreciable hypertrophy or edema. Consequently in the changes occurring post partum, no atrophy or regeneration is evident. As a result of the slow readjustment of the abdominal viscera while the patient lies on her back, the abdominal cavity is relatively empty, the wall sinking inward in a flaccid manner. The degree of this relaxation depends altogether on the previous degree of distention. The musculature is soft, thinned, separated, and with its fascial sheaths lies in waves or folds. The skin is wrinkled into deep furrows. Gradually then shrinking takes place in the muscular and fascial layers, in the skin and peritoneum, until all these structures are restored to tone and elasticity.

Subinvolution of any of these structures being undesirable and a cause of future suffering on the part of the woman, it is important to guard against this carefully.

1. *The Uterus and Its Appendages with Their Ligaments.*—Contraction of the uterus should be maintained from the termination of the third stage of labor, not only to prevent hemorrhage but to encourage involution. An anemia of the uterus is the essential and this is produced best by massage and ergot. Where necessary to prevent relaxation, hot douches, tamponade, the pressure binder and such physiologic measures are employed. It may be wise to continue the ergot in small doses until lactation is established, especially if there is a tendency toward relaxation, or if infection exists or is anticipated.

The cervix, if deeply injured, may require sutures or tamponade, according to conditions. Frequently a tampon is preferable but stitches may be required. Catgut is the preferable material here. Slight lacerations are best left alone. Deep tears do not heal by approximation but by a gaping cicatrix, while superficial wounds disappear in the process of involution. Hence it is important that the patient be examined at once after delivery, especially if this has been instrumental. The relation of deep lacerations to eversion, with consequent infection, leukorrhea, and eventual carcinoma, is so well established that to neglect repair of such injuries to-day is intolerable.

Involution of the ligaments is more difficult to control. If the uterus is permitted to remain in a position of retrodislocation, overstretching and permanent relaxation of the uterosacral and round ligaments is inevitable, the upper portion of the broad ligaments sharing in this misfortune to a certain degree. Such a position of the uterus also requires that the tubes and ovaries, with the sagging upper broad ligament, be prolapsed, the extent of such displacement being only the pit of the Douglas cul-de-sac. While the efferent vessels, in such a relaxation, may not be distorted, the veins almost certainly are, so that, enlarged during pregnancy, they remain dilated and thus give rise to the frequently found

pelvic varicosities. Varicose veins of the broad ligament are seen, to be sure, where the uterus is upright, but they occur often enough to be almost the rule in retroflexions.

Hence, to prevent uterine displacement it is essential that the patient be examined after that organ has returned to the pelvis, when, if such a malposition obtains, it may be easily corrected.

Examination on the tenth day should be made to ascertain if wounds primarily repaired have properly united, but as yet the uterus is too large. Not until the end of the second week will retroflexion be evident, but a delay for the reduction of such a dislocation is safe as late as the sixth week. By this time the organ is thoroughly involuted, or even superinvolved, and may be most easily replaced by digital manipulation. A well-fitting pessary is then inserted and left for a time varying from three to five months. This is the best indication to-day for the pessary, and where there has been no previous relaxation of long standing, the ligaments will usually respond to the opportunity by readily involuting. This phase of the subject should not be passed without reference to high forceps operations. Such extraction is always a major operation and is undoubtedly one of the chief factors in subsequent prolapses of the pelvic viscera as a result of the intense prolonged traction on the lower uterine segment and its supports and attachments.

2, 3. *The Vaginal Walls, the Perineum, and the External Genitalia.*—The ideal labor is the sterile one. Labor is a surgical operation performed spontaneously by the patient herself. She should, therefore, have the surgical environment of one on whom an operation is being performed. Therefore, the external genitalia should be kept sterile post partum by surgical dressings, if we are to prevent our patient from subsequently undergoing a gynecologic operation for pelvic infection. Nearly all puerperal infections are transmitted at the time of labor or very shortly after. The presence of a vaginal laceration only intensifies the importance of this treatment. At this time no opposition will be met in advocating that all vaginal injuries be repaired primarily. The relation of perineal lacerations to relaxation and prolapse of the vaginal wall as well as of the uterus is too well established to require defense at this time. Inclusion of this topic in my paper occurs by way of completing the theme and for the sake of reiteration. While vaginal repair is usually best made directly following labor I have found it advisable, where the structures are very edematous and ecchymotic, to postpone such suturing from twenty-four to seventy-two hours, thus insuring more certain union. Owing to the functions of defecation and urination, whether injuries are present or not, antiseptic or aseptic conditions must be maintained locally if we would insure our patient a certain protection against subsequent operation on account of septic infection or prolapsus uteri.

4. *The Abdominal Wall.*—In considering the abdominal wall I am taking up that phase of the subject which inspired this general theme. The relation of relaxation of the abdominal wall to that symptom-complex known as enteroptosis has been recognized since Glenard published his first thesis referable to the subject in 1885. The relation of preg-

nancy to relaxed abdominal wall has been recognized for years, though appreciated but recently. Of Glenard's 404 cases, 306 were women. The distention of pregnancy nearly always causes some degree of diastasis recti, never marked in the nullipara, evident in the primipara, most marked in the multipara having had frequent births. This condition is more than ever exaggerated in pregnancy where improper dress, hard labor, gastric affections, constipation, adipose development, tumors, ascites, emaciation and general weakness serve as complications.

As a result, further, of the fact already brought out, that involution of the abdominal wall after labor is a different physiologic change than in the uterus, wherefore it is apt to be less perfect, as obstetricians we have less control over the return of this structure to its original condition as a tonic supporting wall. To maintain the integrity of the abdominal wall, then, is the essential aim, since our most strenuous efforts to overcome the various ptoses consequent to relaxation are often extremely discouraging. Prophylactic measures are best considered in routine order.

a. Rest in bed. If anything, this has been overdone in recent years. In institutional care it is essential that patients be subjected to a more or less fixed routine. But in private practice, confinement to bed should vary according to the condition of the patient. Of late various writers have advocated an early rising after labor, and, if permitted with a full appreciation of other conditions and factors, this need not be harmful in itself. On the contrary, certain advantages accrue chiefly in the fact that organic physiology is stimulated and involution is aided.

b. Exercise. This should begin soon after labor. As early as the fourth or fifth day the woman may be put through a course of calisthenics by the nurse. The legs, back and abdomen should be exercised, at first passively, then actively, the patient lying on her back or side in bed. In this way not only is muscle tone and tissue elasticity restored but the patient is relieved from that weakness and light-headedness so characteristic on getting up. After arising exercise is essential and is best taken in the form of walking and light house work. A simple calisthenic apparatus for indoor use in bad weather is advisable.

c. Massage. Associated with exercise and support, massage is of considerable value in the permanently relaxed belly wall and an excellent aid toward securing involution in the recently relaxed one. Unfortunately an expert is required for best results and such an individual is not everywhere obtainable.

d. Work. All bearing down labor is to be avoided, all straining, as in defecation and urination, excessive stair-climbing, etc. Light housework on the contrary is desirable and safe.

e. The Binder. This is undoubtedly of value at once after labor, tending to insure comfort and of aid in exerting pressure on the uterus. After a day or two, however, it need no longer be worn while the patient remains in bed. The important time for supporting the abdominal wall is on arising, the binder now becoming a most essential feature among prophylactic measures. It is to be emphasized that the supporter should hold the wall up from below, the waist being free from constriction. Where the

tone is not lost, the recti are not widely separated, and the binder is not too tight, involution will occur more rapidly and completely. For this purpose the heavy elastic belt is uncomfortable and few patients will wear it long enough. It requires readjustment as the abdominal girth decreases and it does not lend itself readily to the arrangement of the clothing. The non-elastic binder answers the purpose very well provided it is properly constructed and worn. Advantageous over either style of binder, however, is the properly made corset. This garment should come well down about the hips, should fit snugly but comfortably across the abdominal wall and lumbar region below the umbilical plane, and should prevent waist constriction. Above, it should stop well below the breasts. Such a garment, laced in front and of the straight-front type, is the most effective abdominal supporter that has been thus far devised. In such a garment the patient may safely enough rise from child-bed on the fifth day, other conditions being normal, and, if she feels strong enough, may even indulge in moderately heavy house-work. The chief insistence must be that she wear the corset during the entire time she remains up. The advantage is that women so treated are free from the dragging abdominal distress and the backache so common in the puerperium; they feel a sense of support, the abdominal wall very rapidly returns to a condition of tone and elasticity, they are able to dress becomingly from the start, and, being so long free from pressure about the waist, do not tend to return to the improper waist-constricting type of corset.

5. *The Lochia.*—This is of interest only with respect to the puerperium, except that, prophylactically it must be considered as a natural douche. Its value as such is so definitely recognized to-day that post-partum vaginal douching by the nurse is quite obsolete, not only unnecessary but carrying with it an element of danger. The study of the normal flora of the vagina of the pregnant and non-pregnant state has explained the wisdom of leaving the parturient canal alone after labor.

6. *The Urinary Tract.*—At once following labor, pressure on the ureters is relieved and acute or preexisting kidney lesions improve readily. Urinary retention, an occasional bugbear in the puerperium, may give rise to a true cystitis. This is more often due to urethral edema but may exist without apparent cause. While urinary retention is to be avoided, catheterization is always a danger. It is better for a patient to be held in the sitting position for spontaneous urination than to be catheterized. An abundance of liquids, especially milk and water, is the surest safeguard against cystic or nephritic involvement.

CONCLUSIONS

1. The puerperium must be extended to include the first eight weeks post partum and occasionally from three to five months.
2. During pregnancy and the puerperium the woman should be under observation for at least twelve months.
3. All puerperia should not be treated alike but the treatment varied according to conditions.

4. The two important factors are first, to prevent infection with its resultant pathology; second, to secure involution, with particular respect to a restoration of the pelvic floor and abdominal wall as efficient supporting structures.

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VESICOVAGINAL FISTULÆ *

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Our first records of vesical fistulæ were by Luiz de Mercade, a Spanish physician (1520-1600). J. Fatio, 1752, gives the first description of the way he carried out the proposals of 1675-1684. He placed the patient in the lithotomy position, freshened the margins of fistulæ with scissors, brought the edges together with quills sharpened on the ends and wound thread over the ends of the quills.

Sims in 1852 denuded the surface and used a single row of sutures: later he separated the vaginal from the vesical mucous membrane and sutured the two layers independently. He introduced the silver wire just outside the mucous membrane.

A. J. Jobert de Lamballe, Paris, 1852, was the first operator who systematically operated on a large number of cases with many successes. His incision, known as the Jobert incision, i. e., freeing the vaginal vault from the cervix to relieve tension, was well known. He also introduced incisions parallel to the fistula to relieve all tension.

Rydygier, 1887, and Martin, 1891, planned to cover in the defects with large flaps from the vaginal wall.

L. von Dittel, 1893, did a laparotomy, detached the bladder from the uterus and sutured the same to the fistula; the sutures were placed in the bladder wall and the abdominal incision was closed in the usual way.

W. A. Freund brought the fundus of the uterus through the posterior cul-de-sac and closed in the space. Colpocleisis was frequently practiced until 1894 when Sanger and Mackenrodt working independently introduced the flap-splitting operation with little success.

A. Mackenrodt of Berlin used the anterior surface of uterus to close in the defect.

Dr. Dudley of Chicago opened into the bladder, made semicircular denudation of mucous membrane and sutured the same to the margin of the fistula and obtained healing.

Howard Kelly, Baltimore, splits the fistula posteriorly, separates the vesical from the vaginal wall and sutures the movable posterior bladder wall to the fixed anterior wall.

Kinds.—Fistulas of the bladder may be into any of the adjacent organs, i. e.:

* Read at the Sixty-First Annual Meeting of the Illinois Medical Society, at Aurora, May 16-18, 1911.

Rectovesical fistulæ.
Vesicovaginal fistulæ.
Vesico-uterine fistulæ.
Vesico-uterovaginal fistulæ.
Vesico-ovarian (dermoid).
Vesicotubal (tubercular).
Vesicomural (due to hernia).
Vesicoperitoneal.

Causes.—Pessaries, syphilis, cancer, instruments; following vaginal hysterectomy or other operation; alcoholism; sex; age, 30 to 50 years; disproportion between pelvis and head, causing too long and too great pressure on the tissue, hence sloughing later; use of forceps; deformed pelvis.

The *symptoms* of vesical fistulæ are: dysuria, cystitis, temperature or not according to the cause of fistula. If following non-instrumental delivery the urine escapes per vaginam about one week after labor or when the slough is thrown off. The urine escapes constantly per vaginam unless the vaginal outlet is in good condition; then in the reclining position the vagina may retain 200 c.c. and escape only on rising. If there is constant dribbling of urine, the skin of the vulva and vagina is more or less excoriated, even the epidermis of the inner thighs may be eczematous to the knees. Even ulcers of the vagina sometimes exist. If in addition to passing water at regular intervals the urine flows constantly the diagnosis will probably be of urethral fistula, not vesical; the patient becomes inactive, constipated, anemic, irritable, melancholic.

To determine the size and kind of fistula Simons dilates the urethra and palpates the lining of the bladder with the index finger.

Kelly says inspection affords the fullest information of the fistula and adjacent tissues. A large fistula is found at once. A small one is often discovered more easily by filling the bladder with milk or some colored fluid as an anilin solution and observing the escape of the same.

Cystoscopic inspection may be invaluable especially in small fistulæ where the mucous membrane about fistulous tract is edematous or there may be swollen rugæ or perhaps dull red gelatinous eminences with depressions between. The orifice may be very difficult to find if hidden under projecting folds or ridges.

Treatment.—Cauterization with silver nitrate producing granulations which unite and close the gap in small fistula is excellent in recent cases, but is of no use except soon after the injury when Nature is active and spontaneous healing occurs.

The preparations for operation are the same as for laparotomy and much vesical and vaginal douching with antiseptics as 2 per cent. boric acid solution are imperative.

Operation.—Operate about eight weeks after labor before there are scars to retract the tissue, while the tissues are still pliable. In general a denudation must be done. It may be a vaginal denudation with sutures, vesical denudation with sutures, the uterus may be used to fill in gap, flaps from the contiguous vaginal wall may be substituted or an internal

flap of the vesical wall used or a combination of any of the above. Schlessenger says even pregnancy does not contra-indicate an operation.

CASE 1.—My first case of vesico-vaginal fistula was seen in 1901 while assisting to do a vaginal hysterectomy for a large myoma. An assistant accidentally ran the sound through the denuded bladder. This was operated on twice afterwards at intervals of about ten weeks without success.

CASE 2.—Mrs. W., aged 49 years, American. In childhood she had small-pox, scarlet fever and measles; she has had five children, four miscarriages; had an inguinal hernia for 30 years which had constantly grown worse until she was compelled to wear a truss even when sleeping. Was never without a truss even when in bath. Patient entered hospital for laceration of perineum with procidentia but when the nature of the hernia was ascertained she was persuaded to have the hernia operated on first and in placing the silver wire sutures one must have been placed near enough to cause sloughing of the bladder wall. From second to sixth day temperature ran 104°, pulse 140, respiration 24; wound was dressed by head nurse on sixth day and pronounced in good condition. On the eighth day some blood on catheter was withdrawn. From the eighth to sixteenth days the urine was cloudy and had a bad odor; the patient was delirious occasionally; there was a bad prevesical infection. A drainage tube was inserted; then came the days of cauterizing with silver nitrate and many dressings. After seventy-seven days of great care the patient left the hospital well and is to-day a happier and stronger woman than in her entire life.

CASE 3.—My third case was seen with Dr. Byron Robinson. The patient, an Irish woman aged 19 years, short, stout, fat, was brought to hospital in labor after four physicians had attempted delivery with forceps. The anterior cervix was torn off and there was an extensive rent into the bladder. Dr. Robinson did symphysiotomy, delivered child; the mother died 24 hours later.

CASE 4.—Fourth was a vesico-vaginal fistula in a woman aged 55 years, caused by child-birth with instrumental delivery. It had been operated on before without success. At the time of entering hospital it was the size of pea. The edge was freshened, a circle of vaginal mucous membrane was trimmed away and the vesical freed from the vaginal mucous membrane. The G. Simon method of sutures was used, i. e., the approximation and detention sutures. Complete success followed.

CASE 5.—Mrs. F., Bohemian, aged 46 years, had given birth to 16 children and had one miscarriage. Twelve children died before they were three months old. Thirteen months previous to entering hospital she was attended by a midwife during labor, which did not progress satisfactorily, so the midwife called a physician who delivered with forceps. Since that time there has been a constant flow of urine. Ten months after this accident the woman became pregnant but miscarried at 7 months. The fistula had been worse since that time and measured at time of entering hospital 1¼ inches and extended from the left lateral laceration of cervix towards the brim of the pelvis, more anterior than to the side. The inner aspect of thighs and vulva was a mass of eczema. The rim of the fistula was pared and the vaginal mucous membrane separated from vesical mucous membrane for 3 c.c.; the bladder mucous membrane was sutured with catgut and then detention sutures of silver wire were used. A soft rubber catheter was kept in the bladder for the first five days and gradually discontinued. Catheterizing from 4 to 6 hours. Patient made complete recovery.

A great similarity to the cases already cited exists in all my other cases as to history, treatment and success; hence it is unnecessary to individualize farther.

A TECHNIC FOR SUPRAVAGINAL HYSTERECTOMY *

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My text to-day is taken from the Standard Dictionary and reads as follows: "Technic: The manner of artistic performance. The details collectively considered, of mechanical performance in any art." As an example to illustrate the text I have chosen to talk on the technic of abdominal hysterectomy.

With a knowledge of the anatomy of the structures involved the surgeon will know just where to look for the bleeding points. For instance, the operator who knows thoroughly the blood supply of the uterus need have very little concern about hemorrhage. The uterus is supplied by two large vessels on each side, the uterine and ovarian. The two ovarian vessels approach the uterus from each side at its upper portion, and the two uterine arteries approach it from each side of its lower portion. When these four vessels are clamped or ligated the entire blood supply of the uterus is cut off.

My text says that technic consists of the details, collectively considered, of mechanical performance in any art. The *practice* of surgery is essentially a mechanical performance and if careful attention is paid to the details of the performance, or technic, it can be made an artistic performance. The technic carried out decides whether the operation shall be done in a slow, crude, bungling manner, requiring hours for its completion, or whether it shall be done in a few minutes, skilfully, artistically and expeditiously.

I wish to state here and emphasize that the surgeon, alone, cannot carry out all the details of the technic, no more than the star of a theatrical company can place a drama on the stage unassisted, or the leader of an orchestra can produce a musical composition without the aid of the different players. The surgeon must have trained assistants and the surgeon and these assistants must practice together many times before a technic is carried out correctly. For this reason the family physician of the patient should not seek to take a part in the operation. This is no reflection on his training, experience or capabilities. It simply means that he has not had the opportunity to practice with the team, and therefore cannot carry out a part of the immediate operative technic with the deftness and precision of the practiced assistants.

His part of the technic consists in seeing that the patient has been placed in the best possible physical condition before she is brought to the hospital, and in conducting the after-treatment so that she gets the best possible results from the operation. No one can do this so well as her family physician. A physician who has had a patient under his care for months or years must necessarily know more about her physical condition than a surgeon who has only seen her for a few days.

* Read before the Marshall-Putnam County Medical Society, Oct. 13, 1910.

The surgeon should be trained and experienced in the technic employed if a finished and correct technic is to be attained. I have often said that knowing what I know now, if I were to be operated on, I would choose my surgeon and let him take me to the hospital he wished. He would know where he could do his best work. Again, this would be no reflection on any other hospital, but he would know where the operating room nurses had had the most training and practice in carrying out *his* technic. With these preliminary remarks we will now take up the particular subject announced.

When the patient arrives in the hospital a thorough examination should be made, with a view of ascertaining the particular condition for which the hysterectomy is contemplated. We will assume that the patient has been under the care of her family physician and that she is in as good general physical condition as is possible under the circumstances, and the operation is to take place in a day or two after she arrives in the hospital. The operation should never be done, unless an emergency arises, on the same day a patient arrives. A little time allows the surgeon and anesthesiologist to study the patient's condition and make a better choice of the anesthetic, and also lets the patient become accustomed to her surroundings. We have learned by experience that a patient who spends a night in the hospital goes under the anesthetic better and requires less of it, than one who is operated on the same day that she comes in.

We do not starve our patients any more or give them exhausting cathartics. We have found that the strength of a well person can be seriously weakened by the withholding of food and the administration of cathartics. Therefore, our hysterectomy patients are given a light supper the night before the operation, and a large soap suds enema to empty the lower bowel.

A routine examination is made of the urine of every operative patient, and the examination of the urine and heart determines the anesthetic to be administered. The abdominal wall is washed with soap and water, shaved, and thoroughly washed again with soap and water and sterile gauze. The skin is dried, and covered with dry sterile gauze which is held firmly in place with adhesive plaster. This covering is not disturbed until the patient is on the operating table.

Choice of Anesthetic.—I have probably spent as much time and thought on the question of anesthetics as on any other feature of the technic. The patient always has a dread of the anesthetic but this can be very much lessened by a skilful administration. Ether irritates even healthy kidneys considerably. A microscopic examination of the patient's urine after an ether anesthesia readily proves this statement. Ether also has a deleterious action on the leukocytes, and a depressing after-effect on the patient. A healthy person will feel depressed for some hours after an ether anesthesia. For these reasons we do not use ether except where the relaxation of certain muscles will make the work easier and we do not use it then if there are any contra-indications to the use of ether, such as a nephritis or an infection.

The combination of nitrous oxid gas and oxygen is the most pleasant anesthetic to take and the safest to administer. It has no irritating effect on the kidneys and no depressing after-effects. It is more difficult to produce shock under gas than it is under ether.

The two objections to the gas and oxygen combination is the expense and its failure to relax certain muscles in some patients, as, for instance, the recti muscles in abdominal work. We have overcome the first objection by manufacturing the gas in the hospital and greatly reducing its cost. The second objection may be overcome by administering 3 or 4 drachms of ether with the gas, when it is necessary, which produces the necessary relaxation of the muscles. We use the Teter apparatus, which provides for the warming of the gas before it reaches the patient by passing it through coils of small tubing immersed in water heated by an alcohol lamp. By an arrangement of cocks the warm gas may be passed over an ether container. The boiling point of ether is so low that the warm gas readily takes up enough ether to relax the muscles.

This makes a very flexible apparatus in which the proportion of gas and ether may be varied to suit the requirements of the individual case. In this way the anesthetics can be fitted to the indications of the patient instead of fitting all patients to one anesthetic and one method of administering it. We have found that the best results were obtained, all things considered, by a hypodermic of one-sixth grain morphin and one-one-hundredth grain of scopolamin, one and one-half hours before the operation is commenced. This makes the patient drowsy, relieves her apprehension, and allows her to sleep for several hours after the operation is completed. The anesthesia is begun by the administration of nitrous oxid gas and oxygen. This combination has no disagreeable odor like ether and the patient has no disagreeable sensations while going to sleep. After she is anesthetized a little ether is mixed with the gas to relax the recti muscles, provided there are no contra-indications to the ether. If there are contra-indications the entire work may be done under the gas anesthesia, the only difference being that the work is a little more difficult for the operator on account of the more or less rigidity of the recti muscles. After the muscles are relaxed the anesthesia is continued under the gas and oxygen.

The anesthetic should always be in the hands of an experienced anesthetist, not one who gives an anesthetic occasionally, say once a month, but one who gives several anesthetics every week. An inexperienced anesthetist who allows the patient to come partly out from under the influence of the anesthetic and vomit while the abdomen is open adds greatly to the dangers of the patient and annoys the surgeon very much. If the patient is allowed to vomit while the incision is open, the bowels may be forced out, and in the haste in getting them back and holding them, a gauze sponge or instrument may be unknowingly carried in with them. Reports of cases have shown that the anesthetist is sometimes, in this indirect way, responsible for this deplorable accident. An experienced anesthetist will vary the amount of anesthetic used according to the sensitiveness of the parts being handled and will produce an even anes-

thesia with a minimum amount of anesthetic, and in this way lessen the danger and add to the comfort of the patient. It is now acknowledged by all that the anesthetist is a very important member of the surgical team.

The surgeon, assistants and head nurse scrub their hands and forearms thoroughly with a brush, and soap and water, for twenty minutes. The hands and forearms are then rinsed in sterile water and washed with Harrington's solution or alcohol. Sterile sleeves are drawn over the forearms, and rubber gloves, sterilized in boiling water, are put on the hands.

Just before the patient is brought into the operating room, her eyes are covered with wet cotton, and the dressings, that had been placed on the abdomen at the time of the shaving the day before, are lifted up at one edge and the skin painted with tincture of iodine. The skin is dry by this time and the tincture of iodine penetrates into the deep layers of the dry skin, thus sterilizing the hair follicles and sebaceous ducts. The dressings are replaced and the patient brought to the operating room.

If the pathologic anatomy is confined to the pelvis the transverse incision of Pfannenstiel is made. If the uterus has risen out of the pelvis up into the abdomen by reason of a tumor a non-continuous longitudinal incision is made over the left rectus muscle. The uterus is caught with vulsellum forceps, or a corkscrew is screwed into it, and delivered out of the incision as far as possible. The right round ligament is caught with two Ochsner forceps close to the uterus and cut between the forceps (Fig. 1). This makes an opening into the anterior peritoneal covering of the right broad ligament. The left round ligament is caught in the same manner and cut, which makes a similar opening in the anterior peritoneal covering of the left broad ligament. An incision across the anterior surface of the uterus unites the two openings and allows a flap of peritoneum to be lifted from the lower anterior surface of the uterus and broad ligaments. The areolar tissue lying between this layer of peritoneum and the uterus and broad ligaments to allow of the movements of the bladder as it fills and empties permits this to be easily done. This flap must not be lifted too far out on the broad ligament on each side or vessels in the cellular tissue will be lacerated and a hemorrhage started that will be troublesome and dangerous to check with ligatures on account of the proximity of the ureters.

A large straight forceps is then placed across the top of the right broad ligament close to the uterus, and another one is placed parallel to it and close to it if the tube and ovary are to be left. If the tube and ovary are to be removed the second large straight forceps is placed closer to the pelvis beyond the tube and ovary. The anterior blades of these forceps are passed underneath the flap of peritoneum which had been previously lifted from the anterior surface of the uterus and broad ligament. The broad ligament is cut close to the second forceps.

A large curved forceps is now placed across the base of the right broad ligament, with its anterior blade underneath the anterior flap of peritoneum (Fig. 2). The tip of this forceps is placed close to the uterus

so as to be sure that it grasps the right uterine artery. Two large straight forceps are then placed across the top of the left broad ligament as on the right side and the ligament cut between them. A large curved forceps is then placed across the base of the left broad ligament, the tip catching the left uterine artery as on the right side. The broad ligaments are cut further down between the uterus and curved forceps on each side. All the vessels supplying the uterus are now clamped and cut and under complete control.

The peritoneum is closely attached to the posterior surface of the uterus so no peritoneal flap can be lifted up posteriorly. However, it is not needed as the anterior flap is amply sufficient for covering all raw surfaces. Beginning about one inch above the level of the internal os an incision is begun transversely across the anterior surface of the uterus. This incision extends downward and backward toward the center of the uterus. A similar incision is made on the same level across the posterior surface which extends downward and forward until the two incisions meet and complete the amputation.

While the last two incisions are being made the anterior and posterior flaps thus made are grasped with tenaculum forceps and the stump of the cervix held up into the incision (Fig. 3). These two flaps are sutured together with a double thread continuous suture on a cervical needle. Some prefer to place the round ligaments in between the flaps of the cervical stump, but I am afraid of possible infection from the cervical canal.

A double thread catgut suture attached to a round curved needle is passed around the lower portion of the left broad ligament and tied securely in the path of the curved forceps, which is removed as the ligature is tightened. The end of the uterine artery can usually be seen projecting from the concavity of the curved forceps and may be ligated singly if desired. I have not found it necessary when the ligature is tied securely in the path of the forceps' jaws. The suture is then passed in an interlocking manner up the side of the stump of the left broad ligament. The interlocking suture controls the hemorrhage in the ovarian artery and round ligament. The same suture is then passed through the right side of the anterior surface of the stump of the cervix. When it is drawn tight it draws the stumps of the left broad and round ligaments securely against the anterior surface of the stump of the cervix. As the anterior flap of peritoneum at the beginning of the hysterectomy had been lifted from the anterior surface of the uterus it was left denuded of peritoneum. For this reason a very firm union occurs between the ligaments and anterior surface of the stump of the cervix.

The lower end of the right broad ligament is then ligated with a double thread of catgut in the path of the forceps and the right broad and round ligaments secured by an interlocking suture as on the left side. The suture is then passed through the left side of the cervical stump which draws the right broad and round ligaments down to the cervix. The round ligaments are then sutured together with the same suture and the edge of the anterior flap of peritoneum sutured to the posterior sur-

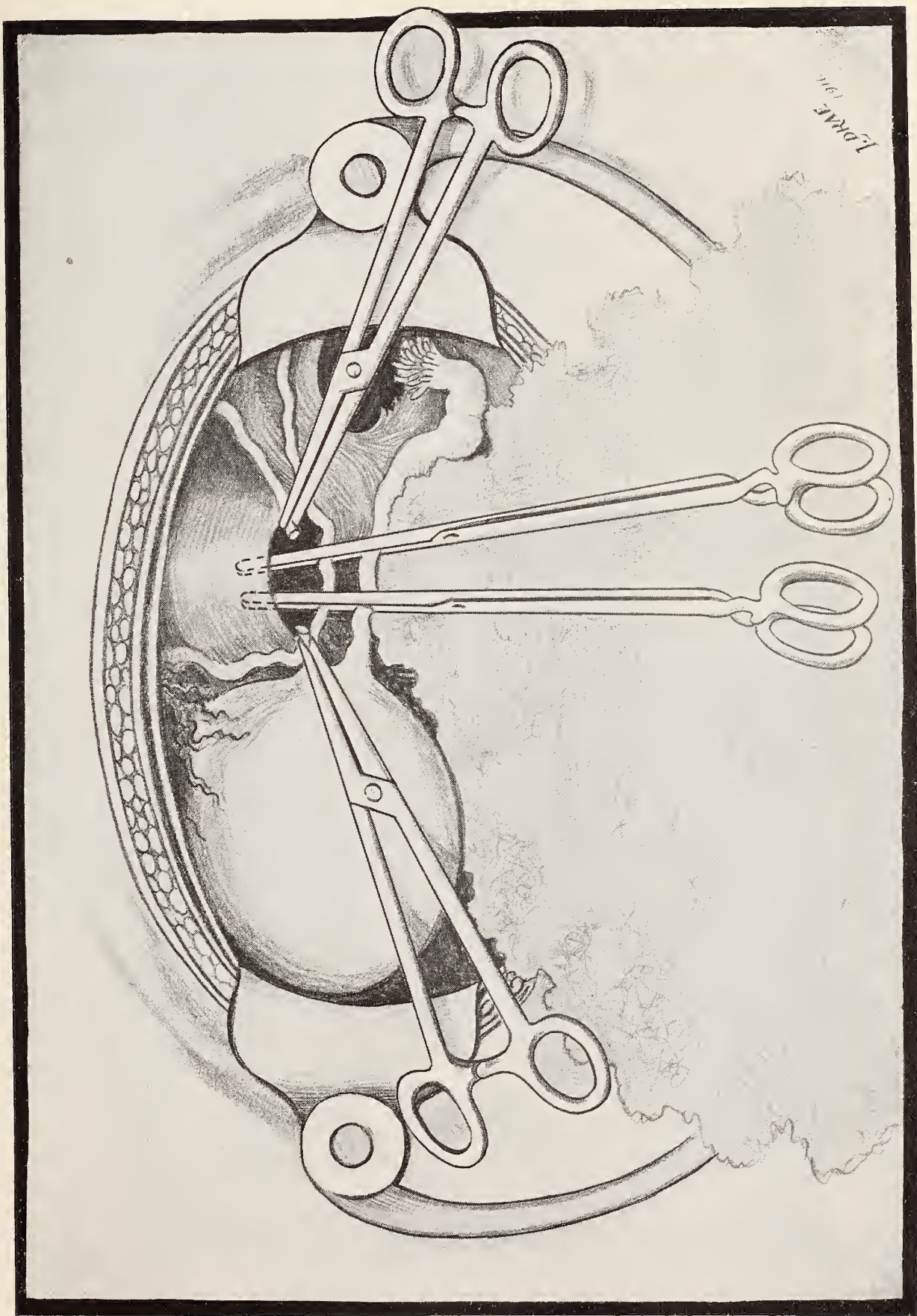


Figure 1

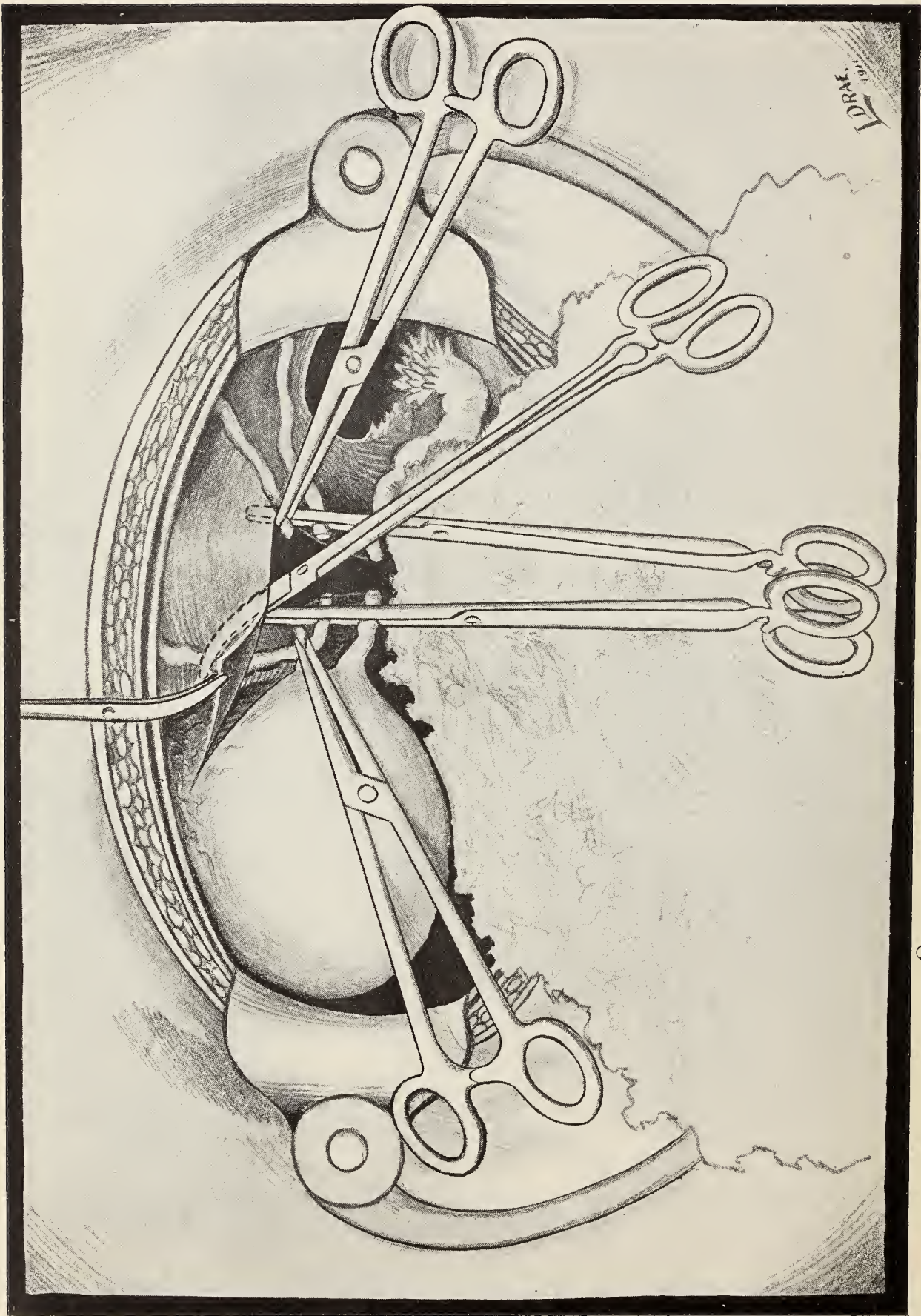


Figure 2

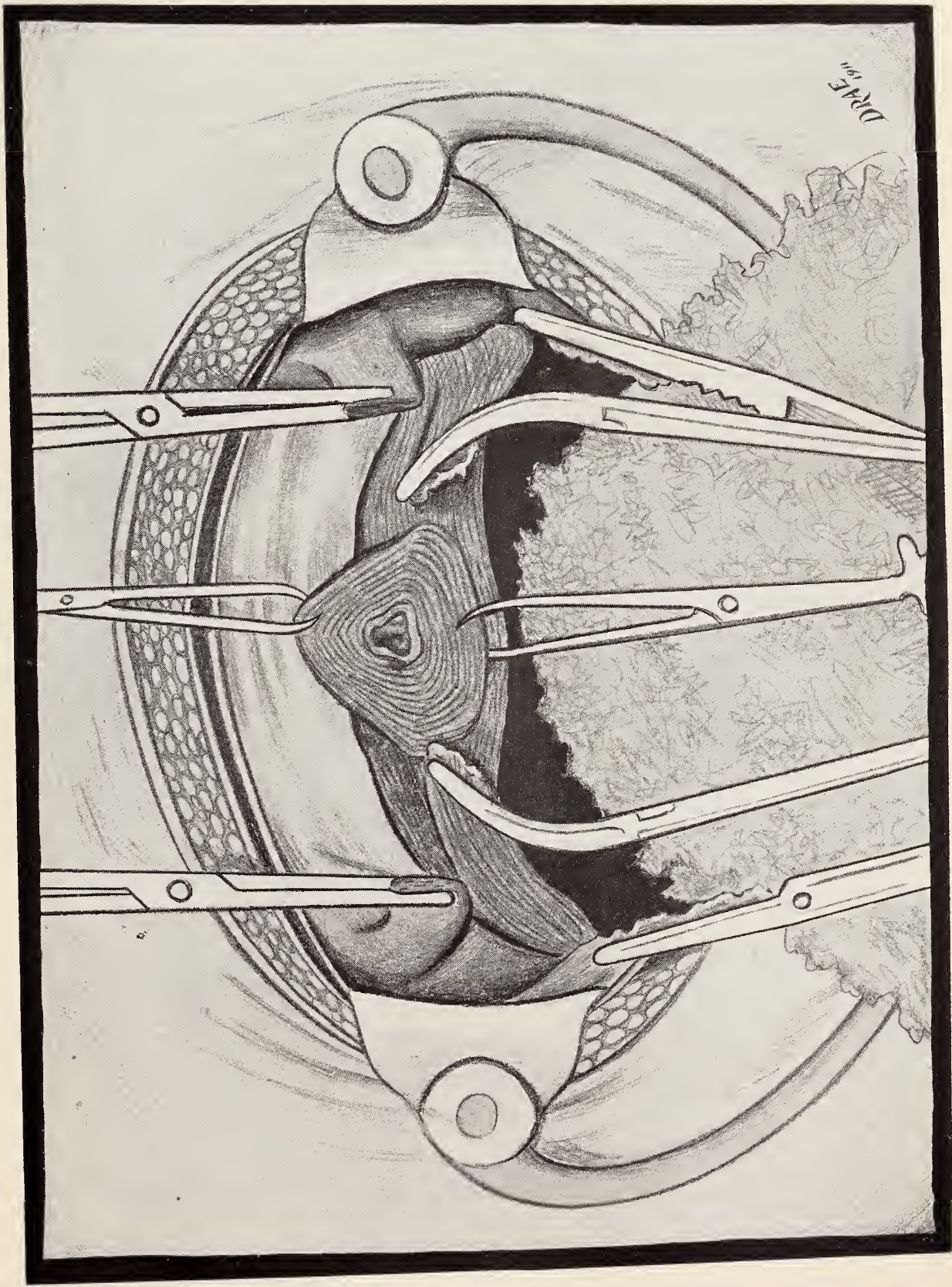


Figure 3

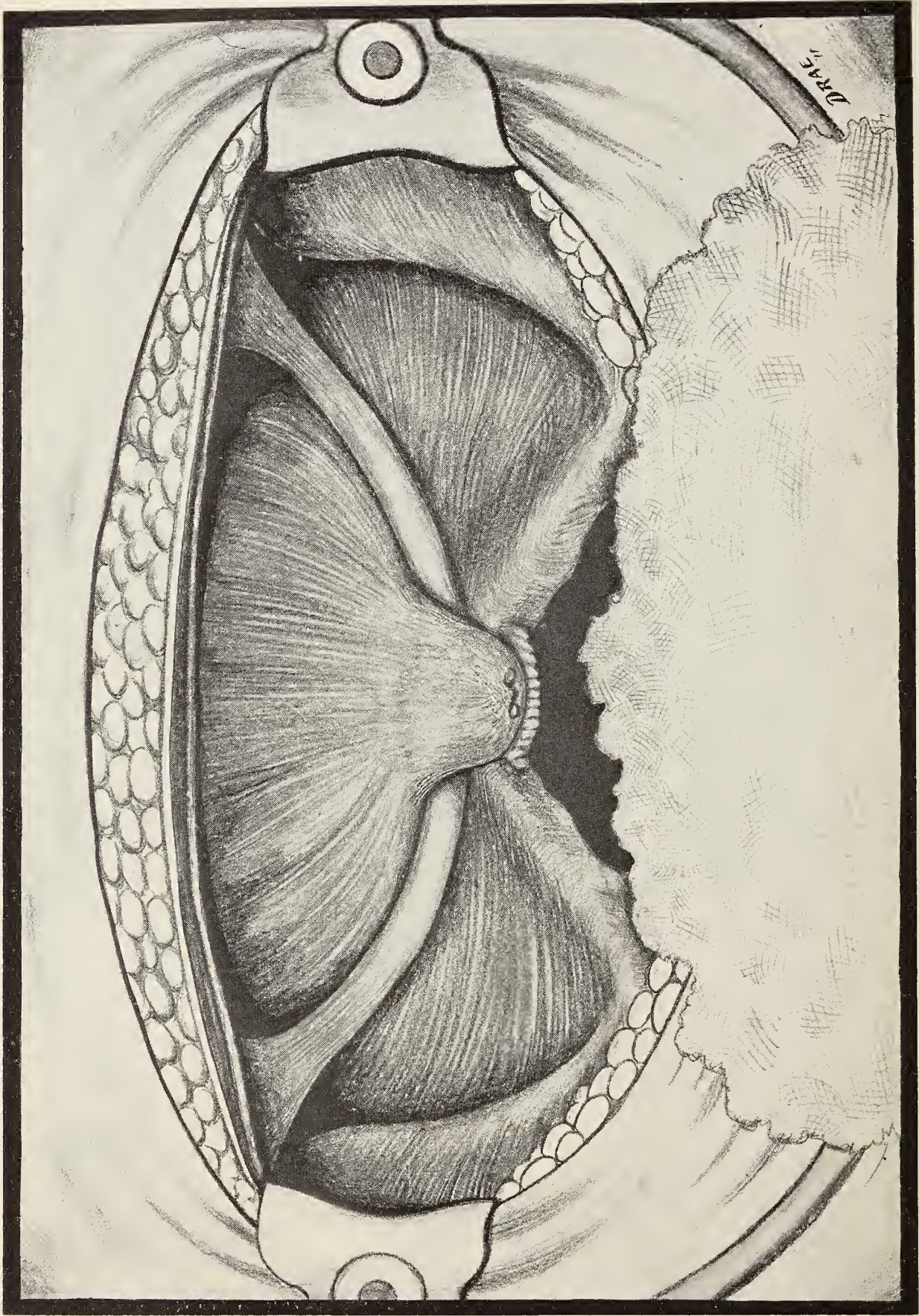


Figure 4

face of the cervical stump. This covers the cervical stump and ends of the ligaments with peritoneum and completes the operation (Fig. 4).

The incision is closed in five layers with continuous catgut sutures, a subcuticular suture being used for the skin. A double thread interlocking suture is used for closing the aponeurotic layer. A hernia never pushes this layer of the abdominal wall before it, but always slips through it. For this reason extra precautions are taken to close the opening in this layer securely. The interlocking is done in such a manner that one interlocking stitch might separate and the others remain firm and tight.

If the patient is anemic, or has a chronic cough, or there is infection in the pelvis, the suturing of the incision will be further strengthened by the introduction of two or three interrupted silkworm gut sutures. Sterile dry gauze is laid over the incision and secured with adhesive plasters.

After the patient has been returned to her room the foot of the bed is elevated and one or two quarts of warm solution is allowed to pass slowly into the rectum. When the salt solution has been given and the patient's temperature is normal or above normal the support is taken from under the foot of the bed and placed under the head of the bed. The head of the bed is kept elevated for about five days until all danger of peritoneal infection has passed.

Nothing original is claimed for this technic. The flap of peritoneum lifted from the anterior surface of the uterus and broad ligaments for the purpose of covering up the raw surfaces of the cervical stump at the completion of the operation is kept from injury by passing the anterior blades of the forceps beneath the flap through the opening made by dividing the round ligaments. A uterus can be quickly and easily removed by this technic. We have done it in twenty-four and a half minutes from the time the incision was made until it was closed, and the patient lost less than an ounce of blood.

The points I wish to urge are that a carefully planned correct technic is essential to a skilful operation and a low mortality and it takes a corps of well-trained assistants to carry out the details of a technic.

THE FEMALE PERINEUM

H. L. GREEN, M.D.

QUINCY, ILL.

"Nature reveals to the babies what she conceals from the wise." She has concealed the true idea of the perineum from the wise obstetricians and their books in the case of the babies. The tremendous projection of all the soft parts constituting the floor of the pelvis—note with emphasis the word *all*—away from the bony plane of the pelvis (inferior strait) does not seem to have impressed obstetricians as a notable fact nor of any importance. Indeed, they seem not to have noticed it at all. They have said nothing about it. If they did, gentle reader, who and where?

You are challenged to show me; not because I am from Missouri, for I am not.

The writer had listened long and attentively to the best of obstetric professors, and read many of their works, and yet not learned it from any of them. It remained for the writer to learn it after the age of 50, and as a matter of plain common-sense observation.

Case in point July 18, 1911: A collective view taken of the soft parts from coccyx to symphysis and *vice versa*, as and before the head or projecting part passes the inferior plane or strait shows this *en masse* projection. In other words, the soft parts all, as explained more fully further on, are normally stretched and pushed down and away from the circle of the bony plane of the inferior strait to a plane beyond the latter. As of course the attachment of the soft parts to the bones circling the pelvic inferior strait are permanent, this projected plane takes on the form of a circle, or, if you please, segment of a circle. In other words, this soft stretched-out plane is curved, and its longest radius is equal to the diameter of the presenting part at the moment the latter passes under the arch of the symphysis.

At this latter moment the soft plane with its most distal point, and this point at or not far from the cutaneous center of the perineal body, is the farthest from the center of the bony plane or inferior pelvic strait. Now it retracts over the extending presenting part, and resumes its normal juxtapositions. At the moment of this greatest distention the vulvar opening allows the presenting part to go on its way. But notice the projection and angle of the vulvar opening at this time of greatest distention; it lays almost flat with the horizon, or, if you please, the mother's belly. More accurately speaking, at an angle of about 10 degrees with these lines. Where was it before—say at the beginning of labor (as in the virgin state) the woman supine? We would say at an angle of about 50 degrees with these lines, accepting the plane of the symphysis as stated in obstetrics at 100 degrees with the conjugate diameter of the brim. Thus it has advanced from this line or angle of 50 degrees to a line 10 degrees below the horizontal, as first above noticed, a distance of 40 degrees. In other words, the vulva has swung, the tissues making it up have stretched and swung downward, outward and forward this distance. The balance of the soft parts of the entire floor of the pelvis extending *pari passu* with this movement. The idea of the entire pelvic floor of the pelvis moving out *en masse* is what I mean.

Obstetricians have, of course, told us that the pelvic floor bulges and then recedes, grows thinner and more dangerously tense, and sometimes, referring usually to the triangular perineal body only, lacerates.

Obstetricians tell us that "lacerations of the pelvic floor occur in not less than 35 per cent. of first and in about 10 per cent. of subsequent labors." As a matter of fact, this descent of the perineal floor begins long before this final act of expulsion; much earlier in the second stage of labor. And why not, as the parts composing it are 2 inches thick, and as much within the inferior strait.

Let us understand what we mean by the perineum. We mean not only the perineal triangle, but all of the tissues from the peritoneal covering within, to the skin surface without, a thickness of 2 inches. It is composed of coccyx, areolar and connective tissue, rectum, perineal triangle, fasciæ, muscles (sphincters), vaginal walls and external genitals, but not including uterus nor bladder and without regard to "segments."

At that point in the second stage of labor where the pelvic diameter is the least defined by a line passing through the base of the coccyx, the ischial spines and lower border of the middle third of the symphysis pubis, is when and where the *vis a tergo* overcomes the resisting *vis e fronte* and pressure on the perineal structures begins. This outlet—the true outlet in a strictly obstetrical sense, is 2 inches within the so-called outlet or inferior strait, the latter defined by a line from the tip of the coccyx, the tuber ischii and arch of the pubic symphysis.

Pressure on the rectum and summit of the perineal body and all of the soft parts clear to the symphysis pubis, 2 inches up, has begun. Now begins the duty of the accoucheur or accoucheuse in their care for the perineum.

Notice at this early stage how the pressure high up, before thinning, bulges the rectum, noted by the anus and perineal body. Shall you wait in your duties to the woman's perineum until the last moment of expulsion? By no means; to do so is criminal—as much criminal ignorance as it would be criminal to slash it with a knife. Think of what a lacerated perineum means to a woman, her life-long suffering from it and its secondaries and the surgery which it entails, to say nothing of an immediate correction operation by the doctor; and, again, that it occurs in 35 and 10 per cent. of labors.

It is an appalling picture for a scientific medical man to view. It is an accusing commentary on scientific medicine, and like the former high percentage death-rate in diphtheria, it must be reduced. Pressure continues on the perineum above, gradually thinning and protruding all the tissues. The coccyx is pressed backward. Its joints by a wise provision of Nature and of Nature's God are not solidified, and they extend as well as move backward. The rectum is stretched, and is seen by the anus to bulge enormously, and likewise the perineal body and tissues as we have seen, all the way to the symphysis pubis, until the presenting part is born. Glory be! But more glory be if there be no ruptured perineum.

Treatment: A hot enema is the first thing. Plain hot water or saline solution, or with turpentine, or according as the doctor wishes. This should be practiced as a routine in all cases. That it should be hot is a principal factor. It removes obstructing feces, is aseptic, softens the tissues, relieves congestion or stasis of blood, stimulates the circulation, provides a cushion, modifies pain, and by reflex action on the spinal cord promotes uterine contractions and the labor.

A fountain syringe should be carried in the doctor's hand-bag always, as they are infrequently found in the houses. A medicated emollient should be worked into the tissues, beginning early. It should be anti-

septic, penetrating and softening to the tissues, as well as lubricating them. It should relieve congestion and pain—analgesia.

These indications and possibly others should be met, and according to the practitioner's judgment supplied as he thinks they may be the best fulfilled. The writer has found the following prescriptions to satisfactorily serve these purposes:

R

Adrenalin (1-1000)	3i
Ext. Belladonnæ Alc.....	3ss
Cocain Hydrochlorid	gr. x
Camphor	℥i
Vaselin	
Lanolin Hydrosis āā q. s. ad.....	3i
Sig. Emollient.	

With the first bulging of the perineum shown, produced by the pressure high up before the structures are thinned by it, the emollient should be worked into the tissues of the perineum, both its mucous and skin surface, within the vagina an inch or more, and especially the fossa navicularis up and down the sides of the vulva in and out. The fourchette, the skin surface of the perineal body over its fullest extent, to the anal line, well pressed in, especially at the median line. Keep this up at intervals, as the perineal body thins. A hot fomentation against the surface occasionally will assist absorption, thinning, relaxation, and will relieve and refresh the woman. Possibly a hypodermic (H.M.C. or something else) for pain. Relax the tension on the perineal body by supporting the presenting part in the hollow of the hand. The woman being on her side, place the wrist under the rectum (lubricated or a cloth between), the hollow of the hand will cover the perineum and control the presenting part. The fingers and thumb can then massage the sides of the perineum, maintaining slack in the median line and at the fourchette. Drawing it inward against the sinciput gives support through the perineum over the bregma and face of the infant, maintaining flexion complete, and thus keeping the occiput snugly under the pubic arch as the equator of the head or presenting part passes the vulvar ring. Thus will too rapid extension of the head or presenting part against the perineum be prevented. Now is the critical time or climax, and not a time for hurry, but rather to retard expulsion. Young man, do not think that because the head or presenting part is in sight that there is special danger, that something must be done in a hurry. Do not get excited nor frightened; wait, perhaps many minutes; keep a cool head; there is plenty of time. Keep it hanging. With chloroform and time, Nature will do what you will spoil if you do not stand pat. These remarks apply with equal force or more so with the girth of the shoulders. The perineum is easily torn by these. Do not pull. Keep the upper shoulder behind the symphysis, while the other escapes at the coccyx. Continue your attentions as above described.

The free hand may assist in these manipulations. If it bids fair to be a rapid delivery, pressure may be made on the occiput. The purposes

are relaxation, distention and to control tension, accomplished by slowing up the delivery and by keeping the smallest circumference in the grasp of the restraining perineal girdle, and the propelling power directed in the axis of the outlet.

Rupture usually occurs with the last few pains: keep your eyes on it and keep your hands on it. When the perineum is much distended the voluntary expulsive force by the woman must be suspended and chloroform given. Chloroform is now the thing. Give it freely and fearlessly; much will not be required after the first effect, and it should not be denied the woman. It is her right to have it.

These attentions are best rendered with the woman on her side, either side, which she may change *ad libitum*.

WHEN IS A CASE OF TUBERCULOSIS CURABLE? TIME REQUIRED FOR CURE AND SUBSEQUENT PRECAUTIONS TO BE OBSERVED *

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With our present conception of the origin and development of tuberculosis in an individual (a conception based on autopsy statistics and clinical experience), we may presume that a large percentage of individuals in every community bear, in various degrees, the imprints of contact with tubercle bacilli. The actual developments, subsequent to contact, depend on the dose and virulence of the germ, and the state of resistance of the individual. In accordance with this, from the standpoint of early diagnosis, we may recognize the following groups of individuals, into organisms of which the tubercular germ has gained entrance:

1. The group of individuals, through whom the dose of the infective organism passed without producing any or perceptible changes, due either to the minuteness of the dose or the insurmountable resistance of the individual.

Frequency of contact, even with minute doses of the tubercular germ, may, however, sooner or later result in its implantation and the subsequent development of the tuberculous process in a certain proportion of individuals belonging to this group.

Hence the great importance of prophylaxis, regardless of the individual state of resistance.

2. The group of individuals, in whom, either because of the smallness of the dose or the great resistance of the individual, the resulting process is slight, slow in development and does not manifest itself by any perceptible symptoms or signs ("closed" tuberculosis without symptoms or signs, "latent" tuberculosis).

* Read at the meeting of the South Side Branch of the Chicago Medical Society, Oct. 24, 1911.

In this group of cases the process is generally small in extent and may not go beyond the stage of inflammation or infiltration, before healing takes place. It may, for certain periods of time, with viable germs imbedded in it, remain stationary at some stage of its development, with the possibilities of its further extension constantly facing the infected host.

Early detection of infection in this group of cases, before further extension has taken place, is of great importance to the infected individual and the community, because, first, it is acknowledged that "the percentage of favorable results in the treatment of tuberculosis stands in inverse proportion to the duration of the disease as well as to its extent" (Turban); second, because a large proportion of recognizable "closed" and "open" cases of tuberculosis are recruited from this group.

While further development of our diagnostic technic may be necessary to bring this entire group of cases within the sphere of ready medical detection, the diagnostic efficiency of tuberculin undoubtedly extends to all such cases of this class in which a degree of hypersusceptibility is established.

This is the class in which the general hospitals could contribute their share to further development of diagnostic technic by establishing "tuberculosis diagnostic stations," in which "latent" or doubtful cases could be thoroughly studied with the aid of all the known clinical and laboratory methods and where clinics could be held from time to time for the benefit of the medical profession.

3. The group of individuals with slight symptoms or signs of "closed" tuberculosis.

4. The group of "closed" cases with definite symptoms or signs.

5. "Open" cases, with tubercle bacilli in the sputum.

For several years, following the epochal discovery by Koch in 1882, the detection of tubercle bacilli in the sputum was considered by many writers the most important factor in the diagnosis of pulmonary tuberculosis. Since full recognition of the fact that the appearance of bacilli in the sputum is dependent on "ulceration" as well as the proximity of the lesion to a bronchus, the effort of the medical investigators has been in the direction of further elaboration of diagnostic methods by which cases of tuberculosis in the prebacillary stage can be recognized. This work was also prompted by the occurrence of more favorable and more durable results of treatment in this class of cases.

Sanatorium experience taught us that the best chance of "cure" or "arrest" of the tuberculous process lies in its early discovery and the immediate institution of proper treatment.

CLASSIFICATION OF PULMONARY TUBERCULOSIS INTO STAGES

Various attempts of classifying tuberculosis into stages (based chiefly on pathologic findings as (1) infiltration, (2) consolidation, (3) cavity formation, etc.) were made before Turban in 1899 published his schema of division based on physical signs, and severity and extent of the lesion.

TURBAN'S SCHEMA OF CLASSIFICATION¹

1. Disease of slight severity, affecting at most one lobe or two half-lobes.

2. Disease of slight severity, more extensive than 1, but affecting at most two lobes; or severe, and affecting at most one lobe.

3. All cases of greater extent and severity than 2.

By disease of "slight severity" is to be understood: disseminated foci manifested clinically by slight impairment of resonance, rough or weak breathing, either vesicular, vesicobronchial or bronchovesicular, with fine or medium râles.

By "severe" disease; compact consolidation and cavities, recognized by great impairment of resonance, tympanitic note, very weak ("indeterminate") bronchovesicular, bronchial or amphoric breathing, with musical or toneless râles, either medium or coarse.

Simple pleuritic dulness, if only of a few centimeters extent, is to be neglected; if it is considerable it should be specially named among the complications. The extent of "one lobe" is always to be taken as equivalent to that of "two half-lobes" and so on. Slight alterations in the breath sound, such as rough breathing or prolonged expiration, without change in the percussion note and without râles, are also to be neglected.

The tendency toward earlier recognition of the disease is shown in the following classification adopted by the International Anti-Tuberculosis Association (a combination of the Turban and Gerhardt schemas). This classification differs from Turban's in limiting the physical signs of a first stage lesion, in a bilateral process, to the area above the clavicle and the spine of the scapula; and to an area above the second rib, in unilateral disease. The scope of the second stage is also correspondingly limited, while cases with recognizable cavities from Turban's second are placed in the third stage.

TURBAN-GERHARDT'S CLASSIFICATION ADOPTED BY INTERNATIONAL ANTI-TUBERCULOSIS ASSOCIATION²

1. Disease of slight severity, limited to small areas of one lobe, that, for instance, in case of affection of both apices, may not extend beyond the spine of the scapula and the clavicles; in case of affection of one apex, frontal, beyond the second rib.

2. Disease of slight severity, more extensive than 1, but affecting at most the volume of one lobe; or severe disease, extending at most to the volume of one-half lobe.

3. All cases extending beyond 2, and all such with considerable cavities.

By disease of slight severity is to be understood: disseminated foci manifested by slight dulness, impure, rough, feeble, vesiculobronchial or bronchovesicular breathing, and fine or medium râles.

1. Dr. K. Turban: *The Diagnosis of Tuberculosis of the Lung*. Translated by Egbert C. Moreland, M.D., p. 45.

2. *Tuberculosis, A Treatise by American Authors*, edited by Arnold C. Klebs, page 362.

By severe disease is to be understood: compact infiltration, recognized by great dulness, very weak bronchovesicular or bronchial breathing with or without râles. Considerable cavities, to be recognized by tympanitic sound, amphoric breathing, and extensive coarse consonating râles, come under Stage 3. Pleuritic dulness, if only a few centimeters in extent, is to be left out of account; if it is extensive, pleuritis should be especially mentioned under tuberculous complications. This stage of the disease is to be indicated for each side separately. The case as a whole is to be classified according to the more diseased side.

The schema of classification put forward by Turban and modified by the International Anti-Tuberculosis Association is based exclusively on the physical signs and these, at most, disclose only the *extent* of the lesion and its character, viz., infiltration, consolidation or cavities.

An idea of the activity of the process as well as of the degree of response made by the defensive forces of the body is, however, best gained from the consideration of the symptoms of each individual case. This was recognized in the classification adopted by the National Association for the Study and Prevention of Tuberculosis, in which the division is based on physical signs and accompanying symptoms. The term "incipient" or "favorable" is applied to the first stage and this includes cases described as follows:

SCHEMA OF CLASSIFICATION ADOPTED IN 1905 BY THE NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS

(To be Used in Conjunction with Turban's Schema)

1. Incipient (favorable): slight initial lesion in the form of infiltration, limited to the apex or a small part of one lobe.

No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.

2. Moderately advanced: no marked impairment of function, either local or constitutional. Localized consolidation moderate in extent, with little or no evidence of destruction of tissues; or disseminated fibroid deposits. No serious complications.

3. Far advanced: marked impairment of function, local and constitutional. Localized consolidation intense; or disseminated areas of softening; or serious complications.

4. Acute miliary tuberculosis.

It is understood that the impairment of health and all symptoms of constitutional disturbance in the incipient stage are slight, that the maximum temperature after rest is never over 100 by mouth (generally 99.6), the maximum pulse-rate not over 90, the amount of expectoration, if any, is very small, and that the physical signs are those of a slight infiltration.

Duration of the disease is not necessarily a factor in classifying a case, as frequently years elapse since the manifestation of first symptoms and the lesion is still mild and does not extend beyond an apex, and vice versa, grave lesions develop in some cases, in a short period of time. The course of a large percentage of cases of tuberculosis is also characterized by successive periods of quiescence and renewed activity.

Cases of acute miliary tuberculosis, acute tuberculous pneumonia and bronchopneumonia stand in a separate column, as their "incipient" stage is overlooked in the majority of cases, with our present methods of diagnosis.

The more "incipient" is the stage, the more favorable is the prognosis.

With improvement of our diagnostic technic, with a more thorough study of all our cases, particularly of those exposed to infection, with a wider, intelligent use of tuberculin, we may expect to bring gradually into our sphere of detection a large percentage of cases in the prebacillary stage, in which the results of treatment are most favorable and durable.

TERMS USED IN DESIGNATION OF VARIOUS DEGREES OF FAVORABLE RESULTS OF TREATMENT OF PULMONARY TUBERCULOSIS

Absolute cure, in an anatomical sense, with complete disappearance of all pathologic changes, very rarely, if ever, occurs in tuberculosis. Complete disappearance of all pathologic changes may be possible in very slight lesions, which are unrecognizable with our present methods of diagnosis. Fibrosis or encapsulation is probably the most favorable result occurring in clinically recognized tuberculous processes. From a clinical standpoint, restitution of general health and working power, combined with disappearance of all signs and symptoms of an active lesion is probably the most favorable result to be expected, even in incipient cases.

Complete disappearance of all physical signs, *restitutio ad integrum*, even as far as the physical examination goes, is very rare, as shown by the search made by Dr. Lawrason Brown into the records of 2,225 cases treated at the Adirondack Cottage Sanatorium, in which number the entire loss of physical signs occurred in fifty-nine, or 2.6 per cent., and this considering that a certain percentage of cases admitted to a sanatorium show very slight deviations from normal findings.

Of 11,935 patients treated in eight German sanatoria, *absolute* cure occurred in 3.4 per cent., and it is not stated in what percentage of these cases the physical signs were absolutely normal at the time of discharge (see Hamel's "Analysis of Statistics of German Sanatoria" in Bulstrode's Report on Sanatoria for Consumption, Thirty-Fifth Annual Report of the Local Government Board, London).

The schema of classification adopted in 1905 by the National Association for the Study and Prevention of Tuberculosis suggests the use of the following terms:

Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

Apparently Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion.

Arrested.—Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.

Improved.—Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Progressive.—(Unimproved.) All essential symptoms and signs unabated or increased.

In a general way it can be said that "apparent cure" or "arrest" takes place under proper treatment in 70 to 90 per cent. of incipient cases and that "arrest" (with a small number of "apparent cures") results under the same conditions in about 30 to 50 or more per cent. of moderately advanced and in a very small percentage of far advanced.

Considering individual cases, the extent of the physical signs is not always a reliable criterion to prognosis as "arrest" of the tuberculous process, even with complete or almost complete restoration of the working capacity, may occur even in seemingly hopeless cases. Hence the importance of proper provision for modern treatment of all cases, even in hospitals for the advanced.

Of the various conditions influencing the progress of the individual case we must mention age, sex, individual state of resistance, environment, character, degree of constitutional disturbance, state of circulation, respiratory disturbance, etc.

IMMEDIATE AND REMOTE RESULTS OF TREATMENT OF PULMONARY TUBERCULOSIS IN VARIOUS STAGES

As previously stated, the favorable character of the results of treatment bears direct relation to the stage of the disease in the majority of cases. The chances of "cure" or "arrest" as well as restoration of the working power are not only most favorable in the incipient stage, but are also more durable.

Of over 2,000 patients treated at the Adirondack Cottage Sanatorium during the first twenty years of its existence, Lawrason Brown finds the following percentages of deaths in the various classes of cases, at the end of one to twenty years since their discharge from the institution: incipient, 14 per cent.; moderately advanced, 43 per cent.; far advanced, 81 per cent. (see *Modern Medicine*, edited by William Osler, M.D., 1907, page 429; also "The Ultimate Results of Sanatorium Treatment" by Lawrason Brown, M.D., Reports of the International Congress, 1908, Vol. I, Part II, page 927). The death-rate among those discharged as "apparently cured" is found by him to be double the general death-rate; among the "arrested" cases it is five to eight times and among the cases discharged with "active" disease, it is at first forty times and later six to seven times higher than the general death-rate.

Classification of results differs with various German sanatoria. In Dr. Hamel's analysis of results in about 12,000 cases discharged from eight large German sanatoria, the percentage of restoration of full working capacity is given as 91.3 in Stage 1; 74.7 in Stage 2; and 35.7 in Stage 3 (see Bulstrode's Report on Sanatoria for Consumption, page 654).

The chances of greater longevity, more durable "cures" or "arrests," as well as of restoration and maintenance of working power are directly dependent on the stage of the disease in which treatment is instituted.

Of statistics accumulated since the establishment of sanatoria near Chicago I may mention the results observed at the Edward Sanatorium, Naperville, Ill. Of 268 incipient cases discharged from this institution during the last five years, 83.5 per cent. are still maintaining their condition and have full working capacity; while of 137 moderately advanced cases, the percentage is 30. The figures for the Chicago-Winfield Sanatorium are about the same.

DURATION OF TREATMENT

With absolute rest necessary for subsidence of constitutional disturbance and graduated exercise subsequently employed to gradually restore the working power of the tuberculous individual, the period of treatment necessary in each individual case, while varying according to the condition, must necessarily last a period of months, until even an intelligent patient, living in healthful surroundings, and in possession of the necessary degree of self-control, can be partially permitted to manage his own case.

As a matter of sound policy, the tuberculous patient, even pronounced "apparently cured," should remain indefinitely under the supervision of his physician, and during this period of supervision, periodic examinations of the chest as well as of the sputum (if any) are very essential.

The "schema" of results proposed by the National Association gives two years as the period, before the expiration of which an "apparently cured" patient should not be pronounced "cured."

With the more wide-spread use of tuberculin for the immunization of tuberculous patients, the period of sanatorium treatment of tuberculosis is becoming gradually lengthened.

It was suggested by some writers that no patient should be considered "cured" unless he fails to respond to a diagnostic dose of tuberculin. This may find application only to the tuberculin-treated individuals and would indicate only tuberculin immunity, the period of which is limited. As a general diagnostic measure in "cured" cases it is unreliable and productive of mischief.

SUBSEQUENT PRECAUTIONS TO BE OBSERVED

The saying "once tuberculous always tuberculous" expressed the truth at a time when early diagnosis of tuberculosis was a rarity. We are rapidly moving away from the grounds of this assertion. The modern treatment of tuberculosis saves the lives in at least two-thirds of cases in which an early diagnosis is made and proper treatment is timely insti-

tuted; it saves a proportion of the patients in the more advanced stages of the disease. It must be understood, however, that permanency of favorable results is impossible in a large percentage of cases, with the return of conditions and mode of life under which the disease had originally developed. The subsequent life of the discharged patient must be so regulated as to maintain his resistance.

As stated above, medical supervision of all the details of his life should be continued for an indefinite period. His own interest as well as the interests of his immediate family and the community at large demand that his sputum (if any) should be examined from time to time for tubercle bacilli and if found positive the patient kept sufficiently isolated to prevent the infection of others.

32 North State Street.

THE PRESENT STATUS OF OUR KNOWLEDGE OF THE INFECTIOUSNESS OF MILK CONTAINING TUBERCLE BACILLI *

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The question of infectiousness of market milk containing tubercle bacilli must be approached from two standpoints. First we have to determine the distribution of tubercle bacilli in milk, and second the infectiousness of these bacilli must be ascertained.

The distribution of tubercle bacilli in milk has not been determined with accuracy in many instances. The microscopic examination has been shown to be misleading, because many bacilli commonly occurring in milk show the same microscopic appearance as tubercle bacilli. The only reliable test is injection into guinea-pigs. These will develop tuberculosis in three to six weeks if a sufficient number of tubercle bacilli are present. The milk is centrifugalized and the sediment and cream injected subcutaneously. During centrifugation the bacilli are carried to the bottom with the sediment and to the top with the cream. Such investigations have been made in Washington, D.C., in Chicago and other places. The results show the presence of tubercle bacilli in milk in 6 to 9 per cent. of the samples examined. This number must be taken as a minimum. It has been shown that milk from the same source may contain tubercle bacilli intermittently, so that on some days the result is positive, on some days negative. Especially is this true when the number of tuberculous cows in a herd is small.

The means of access of tubercle bacilli to milk has puzzled investigators in the past. It was found that bacteria do not pass through the mammary glands as long as the glands are in a healthy condition. Still tubercle bacilli were found in milk from cows which had but small tuberculous lesions, in some cases no lesions at all. This phenomenon

* Read before the South Side Branch of the Chicago Medical Society, Oct. 24, 1911.

has now been fully explained. Tuberculous cows discharge tubercle bacilli in enormous numbers in the feces and since it is known that the bacterial content of milk is largely due to contamination with fecal matter, tubercle bacilli gain access in this manner. One tuberculous cow in a herd therefore is capable of causing the whole milk to contain tubercle bacilli. Tuberculosis is only too frequent in our herds, many herds having been found with 15 or 25 per cent. or even much more tuberculous cows. It is therefore but a natural consequence that a considerable percentage of market milk contains tubercle bacilli.

The second point, the infectiousness of tubercle bacilli of bovine origin, has been disputed and is still disputed by some investigators. Since Koch's statement in 1901 at the British Congress that bovine and human tubercle bacilli are distinctly different and that precautions to avoid infection from bovine tubercle bacilli are superfluous an enormous amount of work has accumulated with more or less contradictory results. The British Royal Commission appointed to investigate this question has concluded that bovine tuberculosis is quite common among children below 5 years, but rather scarce among adults. Their report is conservative and convincing. An exhaustive paper was published by Park and Krumwiede about a year ago. This work is beyond reproach and furnishes a definite basis to establish an opinion on. The authors examined 1,042 cases, which were sent to them from hospitals. The cases were examined with the result shown in the following table:

Age	Human Tuberculosis Per cent.	Bovine Tuberculosis Per cent.	Total Number of Cases
Under 5 years	73.2	26.8	220
5 to 16 years	75	25	132
Over 16 years	98.7	1.3	686
Mixed infections .....	....	....	4
Total number of cases			1,042

These results were determined by study of the cultural characteristics of the organisms isolated and by their virulence for rabbits. The human bacillus grows with comparative luxuriance on glycerin egg media, while the bovine grows sparsely. The human bacillus shows granules in stains and is longer and thinner than the bovine. These differences are pronounced for two or three generations on artificial media.

The virulence for rabbits is the most crucial test. Cultures of the human tubercle bacillus do not kill rabbits as a rule, but cause tuberculosis with lesions in the lungs, rarely in other organs. The animals gradually recover. The bovine bacillus in doses as small as 0.01 mg. of a culture causes generalized tuberculosis in rabbits followed by death in about sixty days. By applying these tests they could differentiate 98 per cent. of the cases examined with certainty.

The above table shows that more than 25 per cent. of cases of tuberculosis in human beings under 16 years of age is due to infection from bovine tubercle bacilli. It is at this period of life that milk is a large

factor in the food and we may conclude with safety that these infections are due to infected milk.

Bovine tuberculosis in man is therefore not negligible. It is an important factor and all precautions possible should be taken. The chief aim should be the eradication of tuberculosis from our dairy herds. This can be done successfully only by the systematic application of the tuberculin test, which in the hands of experts is more than 99 per cent. correct. Failures in revealing tuberculosis by this test are due generally to ignorance or failure to interpret the results correctly. With the high percentage of tuberculous cattle in our dairy herds the eradication of tuberculosis is a gigantic task and requires time. In the meantime all milk coming from herds which are not free from tuberculosis should be pasteurized. Recent scientific investigations have shown that the usual objections to pasteurized milk are without foundation and pasteurization of milk is gaining rapidly in favor with sanitarians. A study of the methods of pasteurization has shown that the so-called holding process, where milk is held at a temperature of 140 F. for twenty to thirty minutes, is efficient, while the so-called flash process should be condemned. The tubercle bacillus is more resistant to heat than most other pathogenic bacteria and some of our foremost investigators have shown that tubercle bacilli are surely killed by an exposure of twenty minutes to a temperature of 140 F. Pasteurization has the additional advantage of preventing epidemics of typhoid fever, scarlet fever, diphtheria and other infectious diseases.

THE TUBERCULOSIS DISPENSARY AND HOME TREATMENT *

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It has been estimated that not more than 2 or 3 per cent. of all tuberculous individuals are financially able to avail themselves of the advantage of a residence in some climatic resort. Furthermore, it must be borne in mind that not all of those who can avail themselves of climatic or sanatorium treatment are willing to do so, but prefer, for one reason or another, to remain at home. And finally, after eliminating the small number who can go where they please and stay as long as is necessary, the great majority of patients treated in sanatoria or health resorts must return to their homes with the disease only partially arrested.

This brief statement of well-known facts simply emphasizes not only the importance, but the necessity of home treatment at some time during the course of the disease.

* Read by invitation before the South Side Branch, Chicago Medical Society, Oct. 24, 1911.

Otis states that there are four classes in which home treatment is especially appropriate: (1) Patients in far advanced stages; (2) those who are averse to going away, and prefer being treated at home; (3) those whose income ceases when they stop work, but who can, at least for a time, have good food and rest at home; and (4) the very poor. It is the last of which I wish particularly to speak, and especially of the relation of the tuberculosis dispensary to these cases.

Although the first dispensary for the treatment of tuberculosis was established twenty odd years ago, it is only within the past ten years that this method has been in general use. In the beginning the methods did not differ essentially from those with which we are all familiar, and which are exemplified in the ordinary medical dispensaries. As originally conducted the patient was given some instruction in prophylaxis, and the importance of fresh air and rest were emphasized. Any symptoms that arose were treated medicinally, and in some instances, assistance was furnished in the form of milk and eggs. Later, outside supervision by a nurse was introduced, but in many instances this was extremely inefficient, and of very little real service, either to the patient or the dispensary physician.

The first essential is that the dispensary does not attempt too much as its efficiency increases or decreases in inverse proportion to the number of people to be cared for.

In large cities isolated dispensaries, working independently of each other, and without definite geographical limitations, should be discouraged. With such an arrangement it not infrequently happens that two dispensaries will be established in a district where there should be but one, and this results in patients attending first one and then the other, as it suits them. Without a central head controlling all the tuberculosis clinics in a community, over-lapping of patients is constant, and I have known them to travel twenty or thirty squares, when they lived around the corner from a dispensary. Furthermore, such a system renders adequate supervision impossible.

Having assigned a limited field of action to a dispensary, what shall be its duties to the community in which it is situated? For the most part the dispensaries' duties are those of a "clearing house." Each patient that applies, presents not only a medical, but an economic problem, and both these factors must be equally considered in determining what will be the proper solution of the difficulty.

A large part of the work of a tuberculosis dispensary is purely diagnostic. The work in this respect has increased enormously in the last few years as the result of more efficient supervision. To-day all properly conducted dispensaries are not satisfied unless every member of the original applicant's household is examined. In this way the dispensary aims to detect disease before it has advanced sufficiently to produce serious symptoms.

Those who present definite or even suspicious evidences of tuberculosis should be disposed of in the way best suited to the individual's needs. Thus, the patient is held for further study, is referred to the

tuberculosis class, a sanatorium or a hospital for cases of advanced disease.

Taking up the various types of cases to be dealt with, we have first, the suspicious cases. There are unquestionably a large number of patients applying to every tuberculosis dispensary, who on examination show slight physical signs at one apex (slight impairment, deficient expansion and some deviation from the normal of the breath sounds); their history is vague, and often reveals nothing more definite than that they have never weighed what is normal for their height. To determine from one or even two or three examinations whether the data obtained points to an old arrested lesion, or one about to become active, is very difficult. Even a positive tuberculin reaction does no more than tell us that tuberculosis is present, not whether it is quiescent or active. Only recently Lawrason Brown¹ has pointed out that neither the subcutaneous test "nor any of its modifications, as yet devised, differentiate clearly clinical tuberculosis that demands vigorous treatment from non-clinical tuberculosis that requires only a God-fearing life." I am inclined to believe that our results of treatment are somewhat obscured by patients of this type. Not uncommonly they are sent to a sanatorium, and as is to be expected, gain weight and improve in their general appearance. To a large extent the results obtained under these circumstances are such as might happen to any one. Only recently one of my associates, Dr. Kaufmann, called my attention to a group of patients presenting this problem. They have been visiting the Phipps Institute Dispensary with varying degrees of regularity for from two to four years. Their physical signs and general condition apparently do not differ from those recorded in the original history. Patients of this type should, I believe, be held under observation by the dispensary. They should, of course, be instructed as to the proper method of living and warned of the possibility of active trouble developing.

In this same category should be included exposed individuals in an infected family. Also patients who have returned from sanatoria. It is especially desirable that this latter group should be supervised by the dispensary, because many of them, after a three to six months' stay in a sanatorium believe that they are cured, and for this reason neglect themselves.

Second, patients in the incipient or first stage with symptoms of activity (slight fever, increased pulse-rate, blood-spitting, slight loss of weight) require immediate treatment. The question of whether they shall be sent to a sanatorium or be treated in their home depends on circumstances. It is practically unanimously agreed that whenever it is possible the patient should be sent to a sanatorium at least for a short time. Unfortunately the demand for accommodations of this sort far exceeds the supply. Among the poor, even the moderate rate charged by some sanatoria cannot be met, or the necessity of continuing work cannot be avoided. For these patients home treatment is the only plan available. So far as possible these cases should be treated by the class method of Pratt, the details of which are well known.

1. Am. Jour. Med. Sc., October, 1911.

Third, advanced cases. Workers in the tuberculosis field are almost unanimous in urging the isolation of these cases in hospitals. It is felt that in this way the spread of the disease will be more effectually checked than by any other method at our disposal. At the present time the supply of beds for this purpose is entirely inadequate in nearly every community.

With the inadequate facilities at our disposal the disposition of these cases is one of the most difficult problems we have to deal with. Aside from the importance of isolation the consumptive with advanced disease appeals strongly to our sympathies, because in many instances he is suffering from physical pain and is utterly without the means of procuring proper attention. At the Phipps Institute we endeavor to relieve the situation by having a nurse specially detailed to the care of the bed-ridden case; one of the members of the dispensary staff is also paid to furnish the necessary medical attention. This arrangement, however, is humanitarian rather than prophylactic. While it is better than permitting the patient to remain without any care it must be borne in mind that it is at best a makeshift. I do not think it should ever be done if a hospital bed is available.

Fourth, the negligent. How to control the individual with open tuberculosis who refuses to go to a sanatorium or hospital, or to follow out properly home treatment, is perhaps the most serious problem we have, not because the individual himself is of any importance but because he is a menace to others. In dealing with patients of this type only two alternatives seem possible, either to drop him from the list of patients, if persuasion fails, or to forcibly isolate him just as we do the small-pox or scarlet fever patient. The first mentioned is the course usually pursued because it is commonly the only thing that can be done. In some cities, however, the boards of health have the authority to forcibly isolate any case which, in their judgment, is a menace to the community. If done in a conservative manner and only as a last resort, it is the only way in which I can see that we will be able to control those who are maliciously careless of the rights of others.

Supervision in the Home. The number of patients who will be treated in their homes, under the direct supervision of the dispensary must depend, to some extent, on the number of available beds in sanatoria or hospitals. If no accommodations are available, the dispensary must do what it can. The equipment of the dispensary itself must also be a determining factor. By equipment I mean more particularly the number of available nurses for outside supervision. Home treatment, if it is to amount to anything, means the entire supervision of the patient. He must have proper sleeping accommodations in the form of a well-ventilated room, a window tent, or a sleeping porch, and above all he must be made to use them. He must have proper food and the woman of the house must if necessary (and it usually is necessary), be shown how to market and prepare the food. Prophylaxis must be thoroughly taught. The number of patients any one nurse can adequately handle is about twenty-five, the outside limit set by Pratt for his classes. If the cases are concentrated and the number includes several in one house, the

number may, of course, be increased. Suspicious cases held for observation, returned sanatorium cases, and members of an exposed family, need only be seen at comparatively wide intervals and do not need as much attention.

One of the secrets of success in home treatment is the attention to detail. While the physician can direct, it is the visiting nurse who really bears the brunt of the burden, and it is largely on her efforts that success depends. One of the most important things in connection with outside supervision is the avoidance of routine visits. Patients visited on a certain day, and a certain hour quickly learn to anticipate these visits and even though they are injuring themselves, human nature is such that advantage will always be taken of such a method. It may be necessary with a new patient to visit him every day for a time, while others, who have been under treatment for some time, and have shown themselves faithful in carrying out directions, need be seen no oftener than once a week or every ten days. The nurse should also aim to vary the time of her visit, making it sometimes in the morning, sometimes in the afternoon, and even occasionally in the evening. So far as possible the functions of the nurse and social worker should be combined in order to reduce, as far as possible, the number of people directing the patient and visiting his home.

Supervision of this sort means something. Often it results in showing us in the very beginning that to care for the patient in his home is impossible. Indeed one of the very first requisites I demand in placing a patient in the tuberculosis class is the character of his home. Only too often the hygienic conditions are such that it is futile to make the attempt. This information, however, renders it possible to advise the patient to move, in case the landlord cannot or will not rectify the faulty condition. To try to treat an individual ill with tuberculosis, in a house utterly unfit for a well person to live in is attempting the impossible. Also to arrest the disease in sanatoria and return the patient to unhygienic living places and working places invites a relapse. It is the method of living after leaving the sanatorium that almost invariably tells the tale. In seeing that these discharged sanatorium cases conform to the rules necessary to maintain their health, and that their homes are made hygienic, the dispensary can render an important service.

Assistance.—When the tuberculosis dispensary came into general use it was the practice of many of them to dispense material assistance in the form of milk and eggs, or milk alone. The idea of aiding patients in this way was that it would tend to hasten the recovery in those whose chief difficulty was often a lack of sufficient nourishing food. That the plan was outrageously abused, even when the strictest precautions were taken, there can be no doubt. To unduly condemn this method, however, in the light of our present knowledge is not fair, as it was an evolutionary phase of the crusade through which we probably had to pass. That many who apply to the dispensary are in need of material assistance there is no doubt; it is simply a question of how best to give it.

Comparatively recently there has come into existence a new profession which has as one of its objects the proper administration of charity. I refer to the social worker. Just as the nurse carries out the medical directions, so is it one of the functions of the social worker to investigate the financial and social needs of the patient; to arrange for care in a hospital or sanatorium, or to provide, through the organized charities, for the necessary means of carrying out home treatment. Charity, at least in large cities, has become an organized business, therefore, it seems much wiser to avail ourselves of its knowledge and resources than to attempt relief measures ourselves.

It not infrequently happens, however, that the celerity with which promises of relief are carried out will determine our success in controlling a patient. If the disease is active and requires immediate treatment, and the patient has not the necessary resources, he is apt to doubt the value of our advice if he is allowed to go two or three weeks before relief is furnished. Their large experience with applicants for aid has rendered the organized charities somewhat loath to move until they have thoroughly investigated the case for themselves. I believe, therefore, that whenever possible, the dispensary should have an emergency fund that can be called on for immediate use, if it is the judgment of the social worker that the case is a worthy one.

The experience of the Phipps Institute illustrates very well the workings of the two methods of furnishing assistance. For the first seven years of its existence the Phipps Institute furnished milk free to those who were believed worthy of assistance. The worthiness of the patient was determined almost entirely by the dispensary physician, from information given by the patient himself. About fifteen months ago the Institute ceased the dispensation of milk entirely (except occasionally as a temporary relief measure). At present any assistance that is required is obtained by the social worker through one of the existing charitable organizations. This closer contact with the patient's home and a better knowledge of his resources has very materially reduced the number who absolutely require assistance. It should also be noted that at the time the dispensation of milk was abandoned the Institute also reduced the sphere of its activities to a restricted area instead of treating patients, as formerly, from all over the city and even adjoining towns. The result is of interest. During the past August, or more than a year after the change took place, the Institute had more patients applying than in any other month in its history.

The only routine assistance that should be furnished directly by the dispensary is that relating to prophylaxis (paper sputum boxes, paper napkins, etc.).

Education.—One of the chief functions of the dispensary should be educational. Here again our methods have undergone a change. Originally the patient was instructed by the dispensary physician and at his first visit was given a pamphlet (printed in his own language) in which the important facts regarding prophylaxis, etc., were stated. The success of this tuberculosis literature depends to a large extent on the

patient's intelligence. I am skeptical as to how much good it does to the average patient. Home treatment can never be successful without intelligent cooperation on the part of the patient, and the only way the majority of our dispensary patients can be taught is by constant reiteration on the part of the visiting nurse, and then seeing, by visiting the home, that the rules are understood and lived up to.

I have found that a very effective way of aiding the nurse is the method introduced by James Alexander Miller in his Tuberculosis Class work. Each week, when the class meets, it is given a short five minutes' talk on some phase of the disease, its causation, its method of spreading, the reason why rest is necessary, etc.

Owing to the fact that many of the foreigners in our large cities speak little or no English, it is imperative that those dealing with them speak their language. Some of the dispensaries have for some time selected physicians for this purpose, but this should be extended to the nurses and social workers, as has been recently done in one of the Associated Tuberculosis Clinics in New York.

"One clinic has made what promises to be a very successful effort to cope with the particular needs arising in connection with the various nationalities living in its district. Special classes have been organized, one for Italians, another for Hebrews, which meet weekly in the clinic quarters, where the supervising nurse gives them short talks on personal and home hygiene. These classes are proving an effective method of developing a social relationship between the clinic and patients who have previously been rather difficult to keep in touch with." (Third Annual Report of the Association of Tuberculosis Clinics of the City of New York, 1910.) Small tuberculosis exhibitions can also be organized and moved from district to district. The school is probably the best place for these exhibits.

Adjuncts to the Dispensary.—Every dispensary should have a children's clinic at least during the school year, otherwise it is almost impossible to get the children to report for an examination. The most convenient time is Saturday morning, although any time after school hours may be selected.

A department for the treatment of laryngeal cases is so essential that no dispensary can do effective work without one. Not only is it necessary to treat the cases with laryngeal symptoms, but every case applying to the dispensary should have the throat examined. Fetterolf has shown that of the patients admitted to the White Haven Sanatorium, at least 10 per cent. have some evidence of laryngeal trouble, such as congestion, superficial erosion, or slight thickening of the vocal cords, and in whom there were no symptoms pointing to the trouble at all. Such lesions are very amenable to treatment and usually require nothing more than the usual hygienic measures, plus forbidding the use of the voice.

The work of this department has furthermore greatly increased by reason of the number of children requiring treatment (operative or otherwise) for adenoids and tonsillar troubles.

I believe that each tuberculosis dispensary should have a dental department, or be able to refer its patients to some convenient place where such work is done. In some instances attention to the teeth is necessary in order to secure proper mastication of the food. In others, there is good reason to believe, from the work of Hunter and others, that the symptoms of the patient may be aggravated by the presence of carious teeth, with or without minute abscesses at the root.

The employment of other methods which will aid the dispensary in home treatment are dependent on circumstances. Some dispensaries have utilized the grounds or roofs of hospitals of which they are a part, for a day camp or a night camp, or both. The day camp especially has become quite popular. It has always seemed to me, however, that it is at best a compromise. Tuberculosis is essentially a house disease and results to a great extent from unhygienic conditions. It is in the house principally, and to a less extent the working place, that we must attack the disease. If the home is not of the sort the patient can live in all day, it is not fit to live in at all; to remove the patient to better surroundings for part of the time may accomplish some good, but it leaves the root of the evil untouched. I recognize, however, that there is some benefit from these camps, and until we can secure better housing conditions they are better than nothing.

It is highly desirable that at least two or three dispensaries in a large city conduct night clinics. There is a limited number of persons who are apprehensive that they have tuberculosis, but who feel that they cannot afford to be docked of their wages to consult a dispensary during the day. Then, too, there are many who do come once, and when it is determined that they have sufficient trouble to warrant their attending the clinic regularly will not do so because of the interference with their work. The question of conducting a clinic during the evening hours by any one dispensary will depend to a great extent on the number of patients needing treatment at that time.

THE VALUE OF TUBERCULIN IN THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS *

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Let us first consider very briefly the active and specific principle, "Tuberculin."

Tuberculin is the product of the bacillary growth and bacillary disintegration of the tubercle bacillus. It was discovered, produced and first described by the great master, Robert Koch, in 1890. The furore which came with its discovery and the dismal failure which followed in the wake is now historical. It is only necessary to allude to the fact that its

* Read at the meeting of the South Side Branch, Chicago Medical Society, Oct. 24, 1911.

discovery did not realize the fond hope that at last a cure for this dreaded disease, tuberculosis, had been found and yet in the discovery of tuberculin a most valuable therapeutic remedy has been given into our hands, a remedial agent which now in years after its discovery proves that the fond hope of the early investigators had not been wholly lost; in fact, tuberculin with passing years has much improved in value, has made many new and true friends and again it is hailed as a remedy second to none in the treatment of tuberculosis in all of its various manifestations. To describe the different kinds of tuberculin now offered to the clinician, their mode of preparation, advantages and disadvantages, strength, etc., would be of no purpose to us as physicians. Suffice it to say that up to the present time more than eighty different varieties, sera and vaccines of the Koch's bacillus are known and marketed.

The efficacy and curative properties of tuberculin as a therapeutic measure in the treatment of pulmonary tuberculosis has been denied by many physicians of repute. Still, most all of the leading men in the fight against tuberculosis, physicians who have had occasion to use it daily for many years like Trudeau, Pottenger, von Ruck in this country, Nathan Raw, Wright in England, von Behring, Hamburger, Spengler in Germany, Arloing in France and others ascribe to its curative properties, and they are all true believers in the efficacy of tuberculin. It is true that in many cases the use of tuberculin in the treatment of pulmonary tuberculosis is influenced by the mind and this psychologic factor undoubtedly plays an important part in the cure. This fact may be readily observed by any one who uses tuberculin daily and who may observe the expectant and anticipating expression in the face of a tuberculous patient as he is receiving the tuberculin injections, and in contrast the gloomy and downcast countenance of one who for special reasons does not receive the tuberculin treatment, and who wonders that if so much good should follow from these injections why he is not so fortunate as also to receive this treatment and cure his case. Having thus briefly alluded to tuberculin as a remedial agent, let us now consider its applicability and value in the diagnosis and the treatment of pulmonary tuberculosis.

The physician who expects to make a diagnosis of incipient pulmonary tuberculosis by means of examination of the sputum for the presence of the tubercle bacillus, by the expectant possible physical signs as they are laid down in the various text-books, or by the usual looked for clinical picture or such well-known symptoms as cough, fever, night sweats, loss of weight and appetite, malaise, etc., has long lost the proper appreciation of an early diagnosis of incipient pulmonary tuberculosis. An individual in whom the above mentioned signs and symptoms are present, either obscure or pronounced, has long passed the stage of incipency, and his physician has failed to correctly interpret his early condition. Since the introduction of tuberculin into general medicine as a diagnostic measure the clinician is in a fair position to demonstrate on the living what before the discovery of this most valuable remedy was only possible by the pathologist, namely, the presence of either the tubercle bacilli or

their products in the live organism. It is in this sense that we refer to tuberculin as being a specific. In the very early infected pulmonary cases when the clinical picture is not well defined and when the physical findings are meagre it is then that the use of tuberculin finds its greatest application. From the standpoint of classification, as adopted by the National Association for the study and prevention of tuberculosis, into the incipient, moderately advanced and far advanced stages, we may designate these very early cases as belonging to the pre-incipient class. Supposing a case to be tuberculous with no positive, if anything negative, lung findings, no pronounced symptoms, perhaps a slight gastro-intestinal disturbance, possibly an hypoacidity, a little malaise, the use of tuberculin in proper dosage will often help to clinch the diagnosis and help to make a case of doubtful conditions into one of most positive and pronounced findings. Give to a suspected tuberculous individual, with probably a slight temperature of 99.0, pulse 90, general appearance a little suspicious, physical findings of the chest negative, an intracutaneous injection of tuberculin, the most positive and pronounced reaction often follows and in many cases even the precise location of the lesion in the lung may be outlined. If to such an individual an injection of 1 mg. of Old Tuberculin or T. R. is given by the intracutaneous method, usually within twenty-four, or at the latest forty-eight hours, a distinct and definite inflammatory area varying in size from 4 cm. to 7 or 8 cm. at the point of injection will be noticeable. This initial, probationary or diagnostic dose should be administered, as I have stated, intracutaneously and not subcutaneously, as when tuberculin is given for therapeutic purposes. In the various applications of tuberculin for diagnostic purposes the aim is, if possible, at a quantitative cutaneous reaction. The percutaneous or Moro reaction, the cutaneous or von Pirquet test, the subcutaneous vaccination or Stich reaction of the Germans, the intracutaneous injection of Mendel, even the Wolff-Eisner or Calmette method on the mucous membrane, are all skin reactions. If a positive reaction does not follow the first injection of 1 mg. of tuberculin then after waiting three days a second injection of tuberculin is given, administering either 2 or 3 mg. and awaiting results. Some clinicians after waiting three days more give a third injection of 5 mg. of tuberculin and should no reaction follow after these three injections pronounce the individual as non-tuberculous. Usually, however, after the first injection of 1 mg. of tuberculin, especially in young adults, a positive reaction will be manifested. At the area of injection an elevated papule, bright red in color, about 2 cm. in diameter, is noticeable and surrounding this papule an area of slight hyperemia about 5 to 7 cm. in width may be observed and with this positive finding our attention is called to a more or less systemic disturbance manifested by a slight elevation of temperature, an accelerated pulse, headache, malaise, etc., and in about 30 per cent. of such positive cases the area of pulmonary involvement may positively be pointed out. If over such a suspected area of the lung we search carefully by the various physical signs at our command, we will often be greatly surprised to find now positive signs where before the use of

the tuberculin we found only negative conditions. We now find on percussion a slightly higher note, slight increase in fremitus and above all distinct and positive fine inspiratory râles on auscultation. These fine inspiratory crackling râles and the other physical signs usually disappear again very fast on the subsidence of the inflammatory papule at the point of injection. Such cases may be diagnosed as tuberculous but they are really pre-incipient. Tubercle formation in the lung has not yet taken place, and let us always bear in mind that the formation of tubercle is really the beginning of Nature's way at establishing immunity, for we observe that in the acute cases of pulmonary tuberculosis progressing to rapid exitus no tubercle formation in the organism is demonstrable. The injection of tuberculin intracutaneously for diagnostic purposes should be assisted by the administration of small doses of potassium iodid, say a few grains every two or three hours, with the object of increasing the inspiratory râles which may now be present in the tuberculous area in the lung following the injection. Now having, either by the various physical means at our command or by the aid of tuberculin, diagnosed a case as being positively tuberculous and the patient's condition is favorable for tuberculin therapy, we begin the medication with very minute, even infinitesimal doses, the purpose of which is to bring about a tuberculin immunity in the organism. When we use tuberculin for diagnostic purposes our average dose as an initial injection is about 1 mg., about one-sixtieth grain; for therapeutic purposes, however, we use but a small fraction of such a dose, about 0.1 millimilligram, equal to $1/600,000$ gr. This then will be our beginning dose. In very hypersensitive individuals even this minute dose is often followed by a general or local reaction; in most persons, however, no disturbance will follow such dosage. Having considered the patient suitable for tuberculin therapy, an initial injection of 0.1 millimilligram is given subcutaneously; waiting about seven days, a second injection is given, injecting now 0.2 millimilligram and thus progressively increasing the dose with each following treatment. When in this way comparatively large doses have been given, our patients are usually tuberculin immune, but not tuberculosis immune. That the patient is becoming immunized to tuberculin is usually manifested by increase in body weight, regular pulse and temperature and a feeling of general improvement. The patient now being immunized, the treatment having extended over a period of eight or more months, and the tuberculous process arrested, the question arises, should now the tuberculin treatment be discontinued? We should always bear in mind that this artificially acquired immunity is not permanent, that an outbreak of this healed over or arrested process may take place at any time and for this reason these patients should be under constant medical observation and at long intervals an occasional small dose of tuberculin subcutaneously should be administered so as to keep up this artificial immunity.

A question often asked: What is the maximum dose of tuberculin? For a tuberculous subject we have a minimum but no maximum dose. The larger doses of tuberculin are given in different potency to different

individuals. The maximum dose in an individual may be said to have been reached when the individual's recuperative powers have been well reestablished. One patient may require forty or fifty injections when he may be pronounced fairly immune, another equally as well in outward appearances will have required 100 or more treatments before the stage is reached which we may call relatively so. We should also always bear in mind that tuberculin *per se* will not cure tuberculosis; it is only an additional means at our command in the fight against this disease. There is no doubt and this fact has been demonstrated by such able and painstaking observers as Trudeau, von Ruck and others, that patients under close medical observation, under strict hygienic and dietary régime plus tuberculin will do much better, will last longer in the fight against tuberculosis, than those patients under this same medical, hygienic and dietary regulations but minus tuberculin.

From what has been stated concerning the value of tuberculin in the diagnosis and the treatment of pulmonary tuberculosis, we may formulate the following conclusions:

First. We as clinicians must all recognize the characteristic duality of tuberculin; as a diagnosticum when we administer tuberculin in fairly large doses, or as a therapeuticum when we give it in minute or infinitesimal doses, the result which we desire depending entirely on the quantity given. In giving tuberculin for diagnostic purposes we aim to induce a distinct reaction, whereas when given for therapeutic effect we must always remain short of a reaction. We do occasionally observe during the administration of tuberculin to a tuberculous individual (in minute doses for curative purposes and without the least disturbance) that if too large a dose inadvertently be given, the most alarming symptoms may manifest themselves. This may in part be due to endotoxin poisoning. These larger doses of tuberculin may produce an active bacteriolysis, when the eliminated poison from the bacillary body disintegration and subsequent absorption by the tissues of the body brings about an intoxication and an accompanying aggravation of the symptoms.

Second. Clinically we cannot prove to what extent the tuberculous process in the lungs is favorably or otherwise influenced by the use of tuberculin but we do observe that the long use of this remedy will produce in the tuberculous individual a condition which favors the arrest of the disease. In tuberculous patients who under the combined hygienic, dietetic and tuberculin régime are much improved or perhaps show an actually arrested process it would be most difficult to prove which of all the factors was the most potent or what amount of credit may be given to tuberculin in bringing about this favorable change. Still, undoubted proof of the curative properties of tuberculin has been furnished us on tuberculous patients treated at the various sanatoria in this country and abroad; for instance, old chronic pulmonary cases which have for years remained unimproved, simply holding their own under ordinary medication and diet, are often wonderfully influenced by a mild tuberculin impression.

Third. All the various tuberculins and sera which are now marketed and which are used for either diagnostic or therapeutic purposes depend for their action on the tuberculin hypersusceptibility of the infected individual; a never infected person, within certain limits, will not react no matter how large a dose is administered. Some tuberculous patients are so sensitized to tuberculin that the most minute dose will bring about a very distinct reaction, and on the other hand again, other individuals with a like progressive pulmonary lesion are tolerant to comparatively large doses.

Fourth. We all do and must recognize that there is a distinct psychologic element in the use of tuberculin. From nature of a hopeful and buoyant spirit to the last, any innovation will at once appeal to the tuberculous. Were it not for this characteristic of the disease charlatans and quacks would not thrive. The tuberculous who have been under tuberculin therapy for some time, if from any cause the treatment should be temporarily interrupted, will on returning ask that the tuberculin medication be resumed, claiming to have been in much better health during the tuberculin administration.

32 North State Street.

DISCUSSION

Dr. J. W. Pettit: I wish to heartily endorse the views of Dr. Sachs. I consider the present treatment of tuberculosis being carried on under especially unfavorable conditions due to too much optimism, a tendency to expect cure in cases too far advanced, and in too short a time. This expectation is based upon an erroneous notion that the incipient cases make up the bulk of those treated in sanatoria, but these cases of the incipient variety, which do give good results, constitute only about 10 per cent. of the cases, and 40 per cent. are advanced cases, and 50 per cent. are far advanced cases, in which the outlook is especially unfavorable. I believe that as the laity becomes better informed upon the subject and the profession more conservative in its optimism, the outlook will improve. I wish to emphasize the importance of the individual in the question of cure, and the necessity for his cooperation, which is usually least given in the two extremes of society. The value of the tuberculin reaction is very great as a diagnostic, but there is a deplorable tendency for it to become a routine measure in the diagnosis and treatment and in any but the proper class of cases and when given in any but the proper manner, it loses much of its value. But, when considered in conjunction of the history, physical findings, etc., it has great value as a diagnostic aid. But no information can be obtained from it as to whether the case is quiescent or active. As a therapeutic agent it is very valuable, producing in 2,200 cases, 20 per cent. of immunity and 16 per cent. of cure.

Dr. Joseph L. Miller: I have well grounded reasons for doubting the value of the Von Pirquet reaction and believe it to be valuable only when taken into consideration with the history and physical findings and allowing for its fallibility. I have employed it at the County Hospital in forty-seven cases, none of which showed any suspicion of tuberculosis, but all of which gave a good typical reaction.

Dr. C. G. Grulee: The Von Pirquet is especially valuable and dependable in children under two or three years of age, as a diagnostic test, because of a lesser tendency in children to wall off the foci of infection, this resulting in the greater absorption of toxin and more likelihood of a positive reaction. In children the pulmonary infection is usually due to the human type of tubercle bacillus and bone and gland infection is usually due to the bovine type.

Dr. A. H. Beifeld: Tuberculosis is frequently found in children exposed to other members of the family who have open cases. There is a close relation

between the tubercular glands and the tubercular tonsils, both being present as a rule, where either is found. A good diagnostic point is the tuberculous habitus. I believe the tuberculin treatment is less effective in the pulmonary than in the bone localization cases.

Dr. P. G. Heinemann: In answer to Dr. Beifeld, I consider that infection with the bovine type, by way of the intestinal canal, is probably a frequent occurrence, in that the respiratory mode of entrance is questionable on account of the slight resistance of the bacilli in sputum to direct or diffused light.

Dr. H. W. Cheney: I question the value of commercial pasteurization as carried on at present and would urge the necessity of legislation to secure more thorough measures in this respect.

Dr. A. Gehrman: I question the communicability of infection by the bovine type to the human subject.

Dr. G. W. Webster: I favor the view that infection enters the body via the alimentary canal on account of the fact that there are not more lesions found in the mucous membrane, bacilli in the mucus, and not more superficial sites of infection in the respiratory type. Experiment has proved the ease with which bacilli may be carried through the tissues in emulsions, and there are on record instances in which the tubercle bacillus was found in the lungs two hours after an animal was fed an emulsion containing living bacilli.

Dr. J. F. Churchill: It is impossible to overestimate the importance of bovine tuberculosis in children on account of the high mortality, there being a death rate of 25 per cent. due to the bovine type, which is usually not pulmonary.

Dr. Edward F. Wells: I am more optimistic than Dr. Pettit, believing the mortality to be substantially on the decrease, and I have more hopes of cooperation of the patient as the years pass and the people become better informed upon the subject.

Dr. K. K. Koessler: There is not a case of pulmonary tuberculosis on record which was of the bovine type. I question the decrease of the tuberculosis mortality when the statistics of the whole world are taken into consideration, certain states may show a decrease but certain others and some countries show an increase.

Dr. Goodkind: The primary seat of infection is often along the alimentary canal, the glands being involved in 50 per cent. of the cases. I believe that the micro-organism may change its character in the human host and discard the bovine characteristics in the pulmonary cases, and both pulmonary and intestinal cases be due to bovine infection, but the micro-organism having undergone more extensive evolution in the pulmonary type.

Dr. G. E. Baxter: I wish to emphasize the importance of the personal element of the case as brought out by Dr. Pettit and lay stress upon the whole clinical picture in making a diagnosis, and not depending upon any one sign.

Dr. M. M. Portis: I do not approve of the tuberculin test on the grounds of its fallibility and its tendency towards the production of phthisiophobia. There is a danger connected with treatment by this agent and it should only be used in institutions, in competent and experienced hands, and under the guidance of the opsonic index.

Dr. J. M. Dodson: I question the value of the tuberculin test and wish to emphasize the possibility of using the sputum examination to good advantage, if it is done more thoroughly, carefully, and exhaustively than is usually the case. Consider the fact that Holt recently reports that he finds tubercle bacillus in 98 per cent. of the cases of tubercular meningitis, in which the discovery previously failed in that large a per cent. of the cases. Holt's examination of the fluid, however, averages one to two hours in duration, so if our sputum examinations were equally well done, is it not possible that we could find the bacilli in sputum in even the very early cases?

Dr. F. C. Test: Bone tuberculosis constitutes 75 per cent. of orthopedic cases, being of the bovine type, and I usually succeed better with that type of tuberculin in the bone cases which responded to both reactions, invariably succeeding better in those cases responding to the bovine only, but using the human in instances

responding only to that. I find tuberculosis in 44 per cent. of all the deformity cases in the vicinity of the Stock Yards, whereas, general statistics give it as only constituting 27 per cent. of deformity cases. Possibly this gives increased weight to the evidence in favor of inter-communicability of the infection. I think we can explain the exacerbations which we occasionally see in tuberculin-treated patients, as being merely incidental to the disease, and not resulting from the tuberculin treatment.

Dr. Julius Hess: There is, in my opinion, more value to the tuberculin test than Dr. Miller seems to think, especially if one bases his views upon experience with children where the reaction is usually reliable, especially if not of the pulmonary type.

Dr. E. F. Wells reported a case of cystitis due to a urea consuming bacillus, which caused a strong ammoniacal reaction. The culture in bouillon remained clear and not being very motile until two or three days old, but the bacillus was motile in fresh specimens of urine. The case was one of a fibroid with valvular disease of the heart, which was thought by surgeons to be inoperable on account of the low urea excretion, which was afterward found to be due to the presence of this urea-consuming micro-organism, and not due to renal inadequacy.

THE LEGAL ASPECT OF MEDICINE *

A. L. MANN, M.D.

ELGIN, ILL.

In presenting a legal subject to a body of medical men, it occurred to me that for the clearer comprehension of the phraseology contained in the decisions which will be quoted, it might be advisable to interpolate here one or two elementary principles of law.

Law, in the abstract, is defined as a rule of action. It is claimed by its exponents to be "The perfection of reason; it always intends to conform thereto, and that which is not reason is not law" [Bl. Com. 1, 70], "reason" here meaning legal reason as differentiated from natural reason.

In its more confined sense it denotes the rules of human conduct by which man is commanded to make use of his faculties of free will and understanding in the regulation of his behavior [Bl. Com. 1, 39], and is derived from, first, the Common Law of England which, with its statutory embellishments, constitutes the rule of conduct governing the subjects of Great Britain and the United States, with the exception of the state of Louisiana; second, the Civil or Imperial Law of the Roman Empire as comprised in the Institutes, Code and Digest of the Emperor Justinian, and the novel Constitutions of himself and some successors on which is based the rule of conduct of most of the civilized governments of the world aside from those of England and the United States; third, Ecclesiastical Law governing ecclesiastical hierarchies, and, last but not least, Martial Law, the law of absolute force, to which all other forms of law are subordinate, and to which all municipal courts must have recourse whenever for any cause whatsoever the processes of these courts are fatally impeded.

We, as citizens of the United States, come under the operation of the Common Law of England, a set of rules formulated from tradition,

* Read before the regular meeting of the Elgin Physicians' Club, Sept. 11, 1911.

usage, precedent and statutory enactment of antiquity, the perpetuation of much of which to the present day, is to my mind a pitiable absurdity, it being wholly inconsistent with the otherwise marked intellectual development of the English speaking people, and converts the claim of the law as a science, into a farce.

To interpret the law we must inquire as to the intention of the maker, which is collected from the words, the context, the subject matter, the effects and consequences, or the spirit and reason of the law. [Bl. Com. 1, 59.]

Words are generally to be understood in their most known and usual signification—their general and popular sense. Terms of art, or technical terms, must be taken according to the acceptation of the learned in art, trade and science.

The context may aid in establishing the meaning of words still dubious.

The subject matter: Words are always to be understood as having a regard thereto, for it is always supposed to be in the eye of the legislator, and all his expressions directed to that end.

Of the effects and consequences, the rule is, that when words bear either none or a very absurd signification, if literally understood, we must a little deviate from the received sense of them.

The reason and spirit of the law considered, is the most universal and effectual way of discovering its true meaning, or the causes which moved its enactment; for when the reason ceases, the law itself ought to cease.

The law of contracts, in its widest extent, may be regarded as including nearly all the law which regulates the relations of human life. The object of all law is order, and the result of order is, that man can look ahead with some sort of security as to the future; hence the law of contracts is intended to insure that what a man has been led to expect shall come to pass; that that which has been promised to him shall be performed. (Anson on Contracts, page 1.)

Contract is agreement resulting in obligation, the essentials of this agreement, a defect in any one of which is fatal, are:

1. Parties.
2. Consideration.
3. Absolute uniformity of mind in all parties.
4. Subject matter of contract.

Contracts are express or implied, or created by operation of law, are executed or executory, and must conform to the law of the locality, as, "The place of the contract governs the act."

II

The Legal Aspect of Medicine may be considered under two general headings, Sociological and Judicial.

Sociologically, medicine is, in common with most of the so-called learned professions (except the profession of theology), and all vocations, essentially a contractual relation governed by and subject to the munici-

pal law of contracts as that law may operate in different localities to protect the rights accruing to every member of society, of life, liberty and the pursuit of happiness, declared by our forefathers to be inalienable. [Decl. of Independence.] The Common Law as compiled by Sir William Blackstone expresses these rights as "reduced to three primary articles: the right of personal security, the right of personal liberty, and the right of private property" [Bl. Com. 1, 129], on which three primary articles is based the entire structure of the law of contracts, whether express or implied.

In presenting himself before the community as an active practitioner of medicine, the physician at once becomes what might be termed a latent party to a contract, his participation as an active party in, and the operation of the contract being determined the moment he renders his first service to a patient; his liability continuing until released from the case by the materializing of any one or more of a number of contingencies.

Contrary to popular impression, he is not required to respond to an initial call (Cooley on Torts, 3d Ed., Vol. 2, page 1395), and he need give no reason whatever for refusing to respond. But having undertaken the treatment of a patient, the law, by implication, immediately creates for him a contract the breach of which constitutes malpractice.

But the law does not require impossibilities. If, for instance, a fracture cannot be discovered by careful and skilled examination, because of conditions such as excessive swelling, the surgeon is not liable. [Gedney v. Kingsley, 41 N. Y. S. R., 794.] Nor does the surgeon warrant a cure [Yunker v. Marshall, 65 Ill. App., 667]. The implied contract is not to *cure*, not to restore a fractured limb to its natural perfectness, but to treat the case with diligence and skill. He may contract to effect a cure, but such an action would be an exhibition of either folly or deliberate intent to defraud, or both.

Consent is a factor in the contractual undertaking of the physician to treat a patient, which has become of importance. Excepting in cases of emergency where the law implies the consent of the patient, *ex necessitate*, it would be wise for the surgeon to refuse to operate unless the scope of his authority was agreed on in advance, as the doctrine is now established that a surgical operation is wrong and unlawful where performed without the express or implied consent of the patient, or someone authorized to act for him. A surgeon was consulted as to a difficulty in the right ear; after an examination an operation was advised and consented to; under anesthetics it was found the left ear was in greater need. The family physician made no objection, and the operation was performed on the left ear. It was held that the operation was without the consent of the patient, and also that this was not an emergency case [Mohr v. Williams, 95 Minn., 261], which doctrine has since been confirmed. But where the patient desires or consents that an operation be performed, and unexpected conditions develop or are discovered in the course of the operation, it is the duty of the surgeon in dealing with these conditions to act on his own discretion, making the highest use of his skill and ability to meet the exigencies which confront him, and, in the nature of things,

he must frequently do this without consultation or conference with anyone, except, perhaps, other members of his profession who are assisting him. Emergencies may arise, and when a surgeon is called it is sometimes found that some action must be taken immediately for the preservation of the life or health of the patient, where it is impracticable to obtain the consent of the ailing or injured, or of anyone authorized to speak for him. In such event; the surgeon may lawfully, and it is his duty to, perform such operation as good surgery demands without such consent. (Pratt v. Davis, 224 Ill., 300.)

In a surgical operation on a married woman, it is her consent that is required, and it is desirable to get the husband's consent also, but "The husband has no power to withhold from his wife the medical assistance which her case might require." (State, use Janney v. Housekeeper, 70 Md., 162.)

Whenever practicable, the written consent of the patient, husband, wife, parent or nearest person in apparent control of the situation, should be obtained; thus fortified the surgeon should do his duty regardless of the opposition of other meddlesome relatives or friends.

As an illustration of the deplorable results of deference on my part to such unwarranted interference owing to my lack of legal information at that time, I take the liberty of referring to a most unpleasant experience of several years ago which cost the life of a most estimable patient, who, being of lawful age and sound mind, and fully realizing existing conditions, begged me to operate; I promised that I would do so but allowed myself to be overruled by the opposition of relatives. I do not blame myself so much as I might have done had not the patient's attorney been present, whose duty it was to have protected his client's interests and life by informing me as to my rights in the case, and which he failed to do. Those relatives are to-day guilty of manslaughter, if not murder, and I can assure you that should I ever again be similarly situated, anyone who attempted to interfere would be starting something they couldn't stop.

The essentials of the contract of the physician, created by implication of law, on his undertaking the treatment of a case are:

1. That he possesses a reasonable degree of skill and learning.
2. That he will use reasonable and ordinary care and diligence in the treatment of a case committed to his care.
3. That in all cases where there is room for doubt he will use his best judgment.

The standard of "A reasonable degree of skill and learning" in its generally accepted form, is that the skill and learning required of physicians is that which physicians and surgeons practicing in similar localities ordinarily possess (Dunbould v. Thompson, 109 Iowa, 199), as contradistinguished from the skill and learning of physicians and surgeons practicing in the particular locality (Gramm v. Boener, 56 Ind., 497), and has been very well settled by a long line of decisions.

Mr. Justice Craig, in the case of Barnes v. Means, 82 Ill., 392, said: "The law required appellants, who held themselves out to the public as

physicians and surgeons, to possess in their practice, and to use, ordinary skill in their profession. While, perhaps, they would not be required to possess a high degree of skill which the most learned might acquire in the profession, yet they were bound to have, and in their practice use that degree of skill which is ordinarily possessed by physicians in practice."

In *Quinn v. Donovan*, 85 Ill., 194, the court in reviewing the case on appeal, said: "Appellant may have used reasonable skill and failed, when under the rule announced in the instruction, if by the exercise of a higher degree of skill he could have applied the proper remedy but failed to do so, he is liable. The law implies no such duty on appellant, and we are of the opinion that the instruction was calculated to mislead the jury and should have been modified."

In determining in a given case whether the physician was possessed of a reasonable and ordinary skill and learning, due regard must be had to the advanced state of medical science at the time. (*Hair v. Reese*, 7 Phila. (Pa), 139.)

Being possessed of the requisite amount of skill and learning, the physician is next required to exert a reasonable and ordinary degree of care and diligence in the exercise of his skill and in the application of his knowledge to accomplish the purpose for which he is employed. (*McNevins v. Lowe*, 40 Ill., 210.)

The test of this reasonable and ordinary skill and diligence is such as a competent and reasonably careful physician would give to that particular case; but it must not be inferred that the physician is required to use care and skill proportionate to the character of the injury or disease he is treating. In extreme cases such a rule would necessitate qualifications at times beyond the possibility of human attainment, and has been properly rejected by the courts. (*Uteley v. Burns*, 70 Ill., 162.)

Among the various duties of the physician falling within the operation of the rule of reasonable and ordinary diligence may be enumerated:

1. Duty to instruct patient and nurse (*Carpenter v. Blake*, 60 Bard., 488); but he is under no obligation to nurse or care for the patient himself (*Graham v. Gaulior*, 21 Tex., 111).

2. Duty to continue attendance, until, (a) patient consents to discontinuance of attendance; (b) physician gives timely notice of such discontinuance; (c) patient's condition justifies such discontinuance, of which the physician must judge at his peril. (*Becker v. Janinski*, 27 Abb. N. C., 45.)

As a corollary to the immediately foregoing rule, it follows that the physician is the proper and sole judge of the necessary frequency of his visits to a patient, so long as the latter is in his charge, and that on bringing an action for such visits, he is not required to prove them to have been necessary. (*Ebner, Admx., v. Mackey*, 186 Ill., 297.)

3. The required care relates only to services for which the physician is employed. (*Jones v. Vroon*, 8 Colo., App. 143.)

4. The degree of care required is not affected by the services being paid for by a third party, or by gratuitous services.

In the case of *DuBois v. Decker*, the patient was treated at the city almshouse by a city physician. Defendant moved to dismiss the complaint on the ground that it failed to show the duty of the physician to treat the patient carefully and skilfully, but the motion was dismissed. The Court of Appeals in sustaining this ruling said: "The fact that he was paid by the city instead of the plaintiffs did not relieve him from the duty to exercise ordinary care and skill." (*DuBois v. Decker*, 130 N. Y., 325.)

Likewise the fact that the services are gratuitous in no respect qualifies or dismisses the requisite degree of care due the patient. (*McNevens v. Lowe*, 40 Ill., 209.)

5. Physicians must follow established modes of practice. (*Allen v. Voje*, 114 Wis., 1;—89 N. W., Rep. 924.)

The physician is frequently confronted by conditions so complicated that no recognized mode of treatment will meet all the exigencies of the case, and it is then that the third contractual requirement will be necessitated, viz.: That in view of the doubt he must use his best judgment, when, should he err, having supplemented his best judgment by the qualifications of reasonable and ordinary skill and diligence, such error will not involve him in legal liability. (*West v. Martin*, 31 Mo., 375.)

The test of professional knowledge, skill and care is applied to all who hold themselves out as physicians or healers of disease and accept employment as such whether they are qualified physicians or pretended. (*Mathei v. Wooley*, 69 Ill. App., 655.)

What will amount to holding one's self out as a physician is peculiarly a question of fact to be decided by the jury in the particular case. (*Reynolds v. Graves*, 3 Wis., 416.)

Negligence of the patient in conforming to instructions and treatment by physician will operate either as a bar to action or to mitigate damages. Where negligence of patient blends with alleged negligence of physician so that they cannot be separated, the patient cannot recover. (*Hibbard v. Thompson*, 109 Mass., 286.)

But contributory negligence on the part of the patient must have directly and proximately caused the injury complained of in order to bar his recovery (*Davis v. Spicer*, 27 Mo. App., 279); and it is not enough that the patient by his negligence and wilful conduct subsequently to the physician's negligence and unskilful conduct, enhanced or made worse the injury. (*Cooley on Torts*, p. 683.)

A physician is liable for the acts of another acting for him, if the relation of agency may be shown, or if the negligent physician is an assistant, or a partner, and is acting within the scope of the partnership, then both are liable. (*Landon v. Humphrey*, 9 Conn., 215.)

Not so, if the physician who has been guilty of malpractice is in independent practice and merely attends the patient of the other physician during his absence or disability, for he and not the physician whose patient he attends, is liable. (*Hitchcock v. Burgett*, 38 Mich., 501.)

Where a question or issue has been raised between the parties and has been judicially decided by a court of competent jurisdiction, the ques-

tion so decided cannot be again litigated between such parties, and is conclusive on them.

Under the Common Law no information acquired by a physician in attendance on a patient came within the rule of "Privileged Communications," but that defect has been largely corrected by statutory enactments in most of the states. These acts are not uniform throughout all of the states, but their general effect is to prohibit the disclosure on the witness-stand—and incidentally anywhere else—by the physician, of any information acquired by him in attending a patient in a professional capacity and which was necessary to enable him to act in that capacity, but in no state does the privilege protect consultation for the purpose of committing an act forbidden by law, nor confessions of past crime.

The privilege does not belong to the surgeon. It is the privilege of the patient and may be waived by him. If waived, the surgeon may and must testify fully when before the court.

Owing to the time limit necessarily restricting papers presented to this meeting, further consideration of the Sociological side of "The Legal Aspect of Medicine" will have to be suspended here. The Judicial side of the subject will now be presented to you by Judge C. F. Irwin.

THE PHYSICIAN AS A WITNESS *

JUDGE C. F. IRWIN

ELGIN, ILL.

Mr. President, Ladies and Gentlemen, Members of the Elgin Medical Society:—I assure you that it affords me great pleasure to be with you this evening. I need hardly say that it is a greater pleasure to me to be present with you in the capacity of a guest than a patient, and it affords me much more pleasure to operate on you than to be operated on by you.

I have no set speech, but, after listening to the thoughtful, able and carefully prepared, splendid paper of Dr. Mann, I feel that I can talk to you without much preparation.

A subject always present on an occasion of this kind is the relation of the medical to the legal profession. These relations are, in a general way, no different than the relations between man and man as members of society. Enhanced in the ratio of our broader comprehension and more educated and intelligent view of the subject, the purpose of the association and relations among men should always be tending to the advancing, improving and elevating of the human race and human society. Much criticism of an adverse character in regard to the profession comes from men who have given the subject no study and very little thought. The person who knows the least about the scope, responsibility and duty of the profession is the first to cry "quack" and speak of "imposter." Many hypercritical people appear to be greatly shocked at the manner in which the surgeon gains his knowledge and skill. They are willing to accept

* Read before the regular meeting of the Elgin Physicians' Club, Sept. 11, 1911.

the benefits of his service, but hold up their hands in holy horror at the thought of using a dissecting knife on the human body, whether living or dead.

They enjoy the feeling of safety in knowing that the skilled surgeon, with the sharp instrument of his profession, can cut close to the vital centers of life with the unerring precision that comes only by careful preparation, deep study and actual operation, and remove the poisonous cancer that is destroying the human life. And yet they shudder at the thought of allowing the surgeon to gain the necessary knowledge and skill by the only means by which it can be obtained, by actual operation and demonstration. This repugnance to the gaining of scientific knowledge by dissection is unworthy the thought of intelligent people and is fast becoming a thing of the past.

But my remarks this evening are on "The Doctor as a Witness," and I am expected, on account of being a member of the legal profession, to give some advice along this line.

First: Do not try to tell too much.

Second: Always hold the honor, integrity and pride of your profession above all other considerations, and

Third: Do not lose your temper.

No true attorney or advocate, having the subject matter of your testimony in charge, would use a doctor as a witness, without first examining him in private. Then he should have sufficient skill in his business to so shape his questions that the truth desired can be elicited by short, concise answers. Answer the question, then stop. The doctor should never allow his desire to please the party calling him, or his desire to be accommodating, to color or distort his testimony in the slightest degree. In his private interview with the attorney, he should always tell him exactly what he thinks about the matter, and then stick to it. In this way he will gain the approbation of all persons whose opinion is worth obtaining, and at the same time preserve his own self respect, and tell the exact truth.

Another source of much embarrassment to the professional man as a witness, is the too prevalent habit of fearing to say, "I don't know." It is no disgrace to a doctor, when questions are suddenly sprung on him, to be unable to immediately answer. When this is the fact, it is no disgrace to say so. Hence when a question is asked that you are in doubt as to the answer, be frank and manly enough to say, "I don't know." This will often relieve from much embarrassment, and take the force out of the cunning, previously prepared cross-examination. The doctor as a witness may be thoroughly versed in his profession and have a clear comprehension of the general subject, and still not be able to instantly answer all the cunningly conceived and carefully prepared technical questions prepared by a skilled lawyer, when he has crammed himself for the occasion.

Another effective armor of safety for the doctor to carry with him on the witness stand, is an abundance of genial, good nature. Do not let the cross-examiner make you lose your temper. Remember, that "Whom the

Gods would destroy, they first make mad." I am speaking now of the honorable physician and surgeon, who may be occasionally called as a witness in a court of justice, and not the professional witness. I have very little respect or confidence in the testimony of a professional witness; the man who will put aside the attainments, ambitions and glory of his profession to devote himself entirely to being a professional witness for the sake of the gain that is in it. I rarely ever knew a professional expert witness whose theory of the case differed to any great extent from that of the party who is paying him.

Another question often asked is, to what extent a professional gentleman, when used as a witness, would be entitled to compensation. The theory of the law is not to pay compensation to a witness, but only to reimburse for expenses. The inconvenience of being a witness is one of the incidents and duties of citizenship. The knowledge which a doctor has in a general way, and that he can impart without special preparation, the courts are entitled to at the same compensation any other witness would receive. But, if the doctor is called on to make any special preparation in any particular branch of business in which he may be called on to testify, he should receive reasonable pay for the time expended, to be paid by the party calling him.

Much discussion has been indulged in as to what would constitute privileged communications between doctor and patient. This subject in some states is regulated by statute. But the subject is of too comprehensive a character to be embodied in a statutory enactment, and must always rest in the sound discretion of the court. No court would compel a physician to testify to facts obtained from his patient in confidence, and which were necessary for the treatment of his case, unless under pressure of public policy, and in cases where it would be against public policy for the court to allow the exceptions.

TONSIL INSTRUMENTS

RICHARD J. TIVNEN, M.D.

Oculist and Aurist to Mercy Hospital; Assistant Surgeon, Illinois Charitable Eye and Ear Infirmary; Instructor in Ophthalmology and Otology, Northwestern University Medical School; Consulting Oculist and Aurist to Mary Thompson Hospital; Member of Consulting Staff of the Cook County Hospital

CHICAGO

TONSIL HEMOSTAT

During a tonsil operation, it frequently occurs that after one tonsil has been removed a considerable period of waiting is necessary to control the resulting hemorrhage before the operator obtains a clear operative field and may, without annoyance from the hemorrhage, proceed to the removal of the remaining tonsil. In such cases my tonsil hemostat (Fig. 1) has proved efficient.

It arrests the hemorrhage promptly, eliminates the delay usually incident to its control, secures a clear operative field and thereby shortens the period of anesthesia, the time of operation, and minimizes greatly the

danger of subsequent hemorrhage. The special application of this hemostat is for the control of hemorrhage *during* the operation. It may be used, however, equally well for postoperative tonsillar hemorrhage.

Its application is expeditious and simple; it can be used for either tonsil without change or adjustment and being constructed entirely of metal, may be boiled without injury.

The clamping arms of the instrument are thin, light in weight, and, when in position, the inner arm and pressure bulb adapt themselves snugly to the tonsillar fossa and anterior pillar; beyond the pillar, the arm is so curved as to rest between the alveolar process and the cheek; while the portion of arm and lock protruding from the mouth is short, curved abruptly to the outer side, and entirely out of the way of the operator.

The field of operation is not in the least obstructed by its use and neither the subsequent introduction and manipulation of the necessary instruments for the removal of the remaining tonsil nor the technic of the operator need be curtailed, modified or embarrassed by its presence.

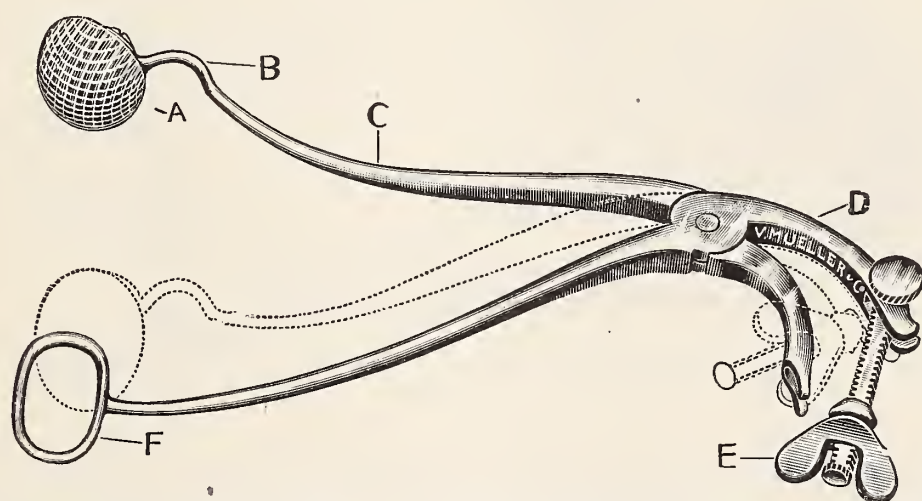


Fig. 1.—Tivnen's tonsil hemostat. A, serrated aluminum tonsil pressure bulb, oval in form to conform to tonsillar fossa; B, curve, which overrides the anterior pillar; C, arm, curved to rest external to the teeth, between the alveolar process and the cheek; D, portion projecting from mouth; E, thumb-screw and swinging arm lock for securing instrument when closed and applied; F, the external fenestrated counter-pressure plate. The unbroken heavy lines indicate instrument when open; the dotted lines indicate its appearance when closed.

In using the instrument, I have found it of advantage to cover the oval bulb with three or four layers of sterile gauze, the ends of which are first trimmed short so they will not project into the operative field, then gathered together and secured just over the base of the bulb by an ordinary rubber band, previously sterilized. This covering is moistened with a 1 to 1,000 solution of epinephrin (adrenalin chlorid).

A pad of gauze is also placed just behind the angle of the jaw to protect it from the slight amount of pressure exerted at this point by the external counter device of the instrument.

The advantages of the instrument summarized are as follows:

1. It arrests tonsillar hemorrhage promptly and is available for either operative or postoperative hemorrhage.
2. It can be quickly applied to either tonsil, without change or adjustment, and when in use does not in the least obstruct the operative field.

3. It is simple in construction, light in weight and being entirely of metal may be sterilized by boiling without injury.

4. The amount of pressure necessary to exert in controlling the hemorrhage is slight and when the pressure applied is judiciously graduated and not unnecessarily prolonged, the tissues are not traumatized and the patient is not subjected to additional hazard by its use.

5. By securing a clear operative field, it conduces materially to the carrying out of a satisfactory technic and surgical thoroughness, shortens the anesthesia and operative period, eliminates the hazard and annoyance of operative hemorrhage and minimizes the danger of subsequent hemorrhage.

TONSIL SPONGE FORCEPS

A satisfactory tonsil sponge forceps should be light in weight, simple in design, easily operated, carry securely a sponge of sufficient size and form to serve its purposes adequately and so constructed as to adapt itself readily to the oral cavity and tonsillar region.

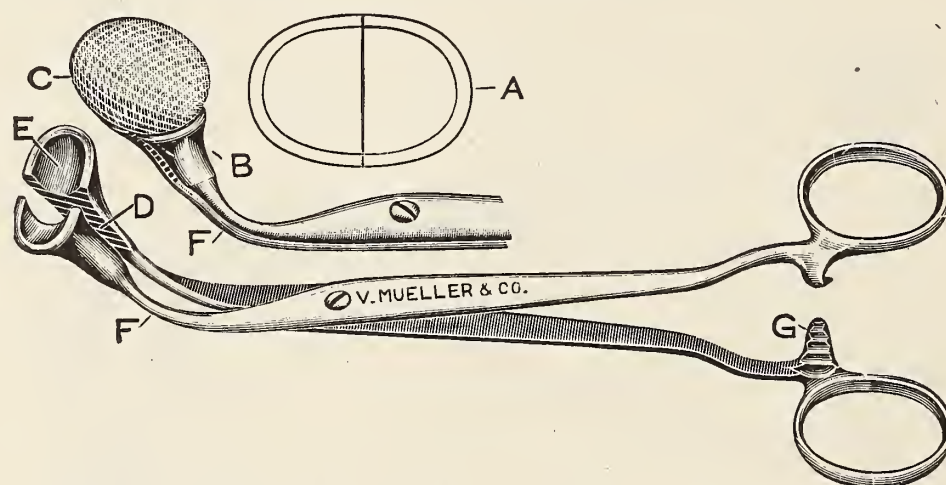


Fig. 2.—Tivnen's tonsil-sponge forceps. A, outline of sponge-cup; B, base of sponge-cup; C, sponge in position; D, instrument opened to show serrated portion at inner side of cup base for retaining ends of sponge; E, receptacle for sponge; F, showing angle of sponge-cup to the handle; G, lock.

My tonsil sponge forceps (Fig. 2) was designed to meet these requirements.

The instrument is provided with a lock to hold the sponge securely; the sponge receptacle is cup-shaped, oval in form to correspond to the general contour of the tonsil and tonsillar fossa; the "cup" in which the sponge rests is sufficiently large to accommodate a sponge of proper size; the edge or "flange" of the cup is overlapped by the sponge, thus presenting a smooth, cushioned surface, which minimizes the trauma to the tissues to which it is applied and in addition provides an even, firm resistance of a solid oval sponge-body, which exerts firm and evenly distributed pressure throughout every area with which it comes in contact.

The two halves of the sponge cup are serrated at their base to engage firmly the base of the sponge, which is inserted between them; the cup itself is placed at a slight angle to the carrying arm of the instrument to permit the operator an unobstructed view of the tonsillar area when applied and to promote facility of application to the depths of the tonsillar fossa. The sponges for the instrument are prepared by taking a

small square of gauze, filling with cotton to the required size, and then gathering the ends of the gauze together over the cotton filling — much as a pouch is made.

The gathered ends of the gauze are twisted together and are then easily inserted between the open halves of the cup, which is closed and locked. Before operation, a sufficient number of such sponges are thus prepared and sterilized. From four to six sponge forceps should be at hand for the operation and during the operation the assistant is entrusted with the arming and disarming of the instrument.

TONSIL-GRASPING FORCEPS

The advantages of this instrument (Fig. 3) are:

1. It is thin, light in weight and delicate in construction, thus permitting facility of operation and an unobstructed view of the tonsil and tonsil area.

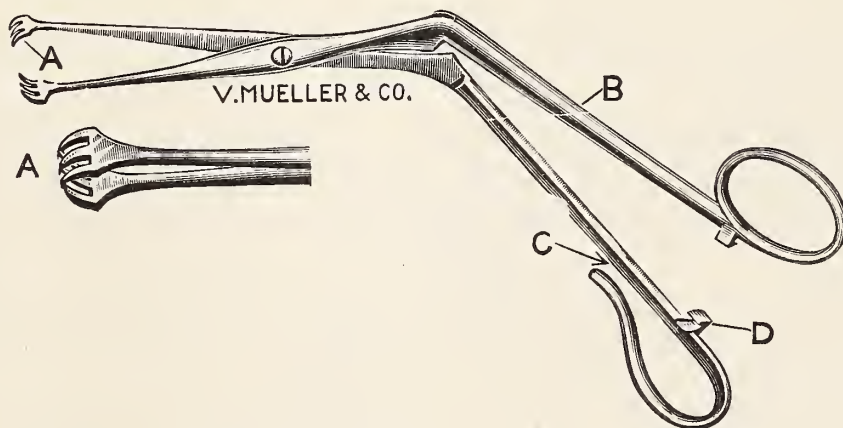


Fig. 3.—Tivnen's tonsil-grasping forceps. A, tonsil grasping portion; B, showing angle of handle to grasping arm; C, opening in finger ring for introduction of snare; D, lock.

2. The grasping portion is curved to adapt itself to the tonsil contour; the teeth, three in number, are edged, curved, spaced and approximate snugly to engage the tonsil easily and securely. This arrangement is of especial advantage in dealing with the so-called "submerged" variety of tonsil.

3. The handle of the instrument, being nearly at right angles to the grasping portion, the hand of the operator is situated out of the line of vision and thus presents an unobstructed view of the field of operation at all times.

4. When the tonsil is once engaged the instrument is locked, and the tonsil remains secured until removed.

5. The snare is applied without releasing the tonsil, by entering the loop at the opening in the finger ring, sliding it over the instrument down to and over the tonsil.

TONSIL PILLAR SEPARATOR

The advantages of this instrument (Fig. 4) are:

1. It is of sufficient weight to impart a comfortable sense of resistance and balance to the operator's hand.

2. The length of the handle enables the operator to perform the necessary manipulation without obstructing the view.

3. The handle is round to permit rotation of the instrument and is serrated throughout so that it may be held firmly and securely.

4. The blade is placed almost at right angles to the handle; it is slightly oval from side to side to conform to the tonsil contour and is thinned and rounded at the point; and the cutting edge may be made sharp or dull.

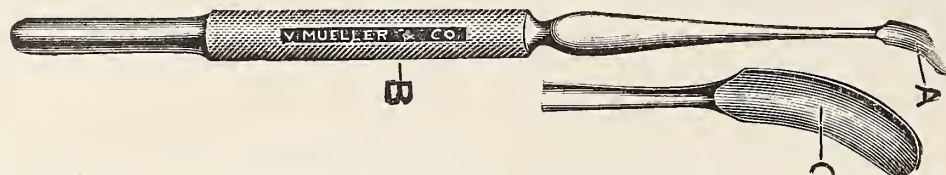


Fig. 4.—Tivnen's tonsil pillar separator. A, cutting edge of blade; B, handle; C, showing oval form of blade from side to side.

ADENOID HEMOSTAT

The amount of blood lost in the removal of adenoids is usually considerable.

While the hemorrhage is not ordinarily considered of serious moment, occasionally, however, it is accompanied or followed by serious consequences to the patient. It is therefore the manifest duty of the operator to safeguard his patient in every possible way and to eliminate every factor which may endanger the patient's life or prolong his period of invalidism.

Viewed from this standpoint, the control of hemorrhage incident to the adenoid operation becomes a matter of importance and merits thoughtful consideration.

My adenoid hemostat (Fig. 5) is designed for the control of hemorrhage during or following adenoid operation.

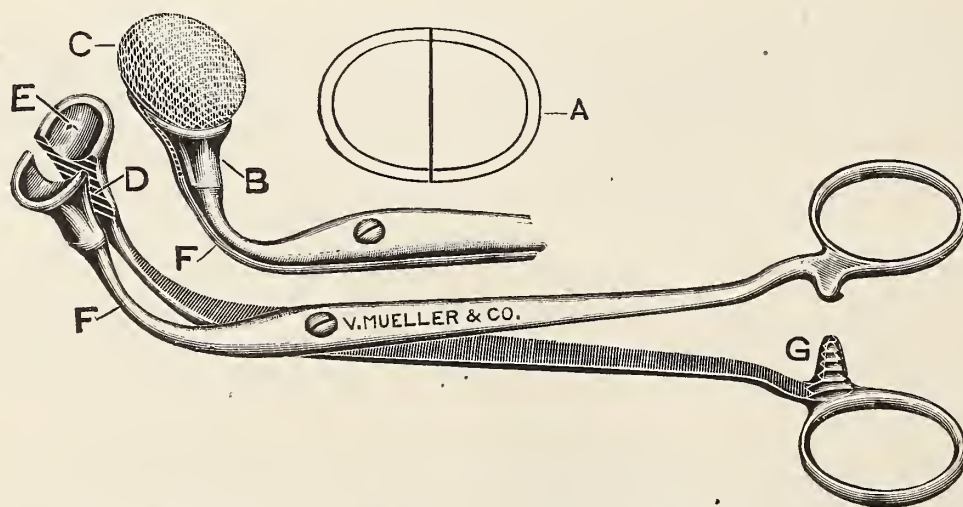


Fig. 5.—Tivnen's adenoid hemostat. A, outline of sponge-cup; B, base of sponge-cup; C, sponge in position; D, instrument opened to show serrated portion at inner side of cup base for retaining ends of sponge; E, receptacle for sponge; F, showing angle of sponge-cup to the handle; G, lock.

In design and construction this instrument differs in only one essential particular from the tonsil sponge forceps already described. In the adenoid hemostat, the sponge cup is placed at nearly right angles to the carrying arm in order to accommodate itself easily to the nasopharynx, the angle of the sponge cup to the handle, marked F in Figure 5, approaching more nearly a right angle in the adenoid hemostat.

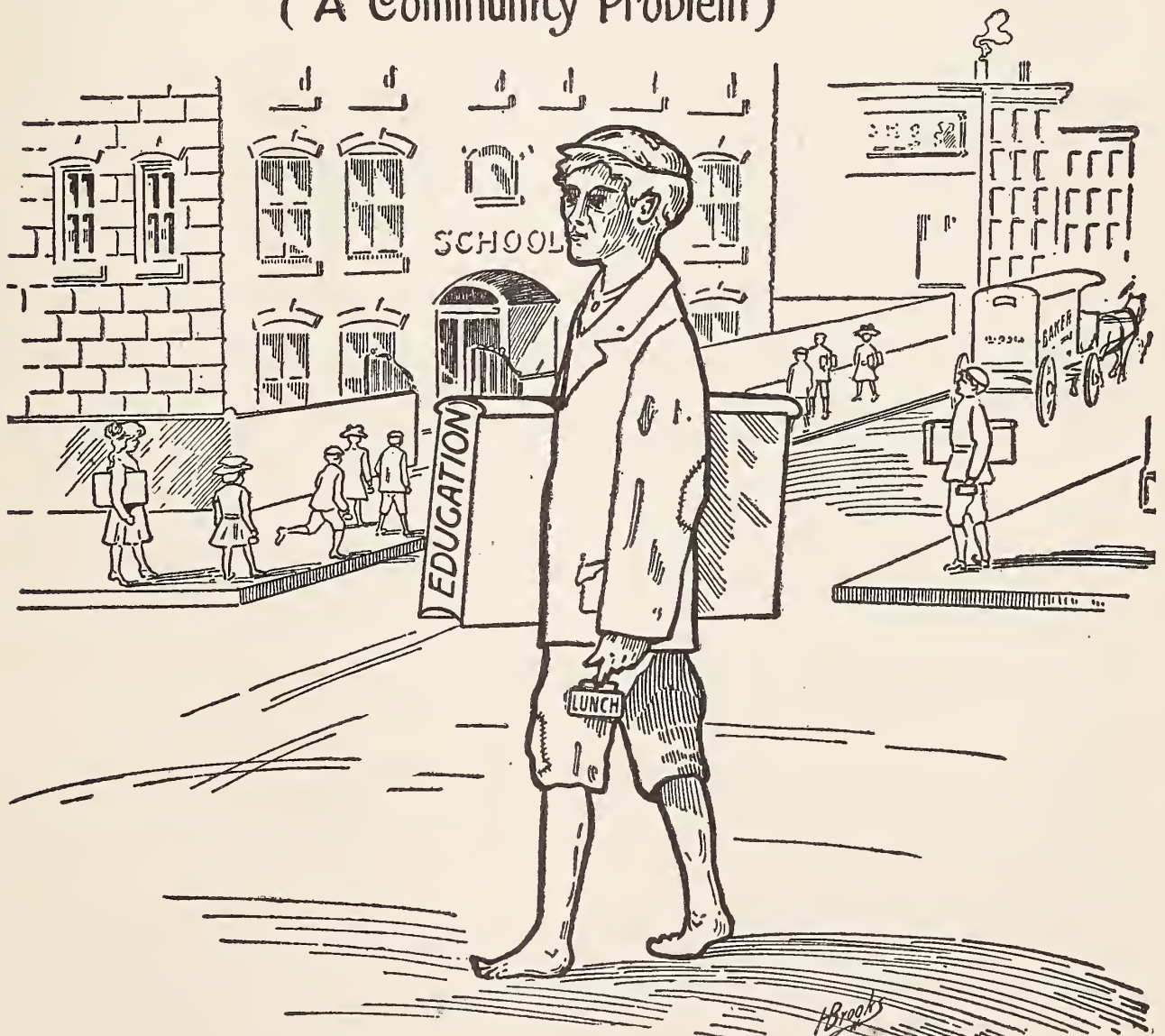
The sponge used is previously prepared and its size is regulated from an estimate of the size of the patient's nasopharyngeal space.

After removal of the adenoid, the sponge is moistened in epinephrin (adrenalin chlorid) solution (1 to 1,000) and is quickly but gently applied to the nasopharynx, being introduced in the same manner as the adenoid curet. It is then pressed firmly against the vault of the pharynx and retained in this position until the hemorrhage has ceased, and is then slowly and gently withdrawn.

32 North State Street (Reliance Building).

EDUCATION $\overline{\text{vs}}$ NUTRITION

A Growing Learning Child must be properly Nourished.
(A Community Problem)



HEALTH MUST NOT BE SACRIFICED TO EDUCATION

What will it profit a child, the man and a community if he gain a world knowledge and lose his health ?

A wise community will safeguard its future well-being by recognizing its obligations to its child citizens.

There must be No Under-fed School Children.

Poster issued by Chicago Department of Health.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY

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DECEMBER, 1911

MEDICAL EDUCATION, MEDICAL PRACTICE AND MEDICAL LICENSURE IN ILLINOIS

At the meeting of the Council of the Chicago Medical Society, held Tuesday, Nov. 14, 1911, Dr. Arthur M. Corwin presented certain resolutions which were adopted and copies ordered sent to this journal for publication. We are glad to give space to resolutions of this character. We heartily agree with the wording of the resolutions in so far as they have as their object the interests of truth and justice; the promotion of higher education; improvement of medical practice in Illinois, and we concur in the recommendation that organized medicine of this county (Cook) and State of Illinois, should arouse itself for the good of the profession and the people.

As far as this journal is concerned this has been its policy for many years. For years we fought almost alone the one organization more responsible than any other for existing conditions. We believe that no great progress can be made until that board is completely reorganized. We are glad to know that the profession and the people in all parts of the state are awakening to the dereliction of the State Board of Health and to the importance of the subject. Nor is this awakening confined to Illinois. The people and profession in all the states, largely because of the report of the Carnegie Foundation made in 1910, are becoming aroused to this need, and many boards are adopting rules which we are

sure will soon bring about a revolution in the organization and conduct of all medical schools, those of Chicago included. This will come to pass very soon, no matter what the Committee of the Chicago Medical Society may or may not do. The Chicago Society may do much to hasten improvement, but it cannot long delay it.

Along this line we take pleasure in printing the resolutions and requirements adopted by the Ohio State Board of Medical Registration and Examination, with reference to acceptable medical schools. This action of the Ohio board becomes all the more creditable when we learn that the medical schools of Ohio have been nearly put out of business by the stringent rules already in force.

Resolved, That on and after this date a medical college to be recognized as in good standing by the Medical Board of the State of Ohio shall comply with the following requirements:

1. It shall strictly comply with all the claims made in its announcements and enforce all its standards and requirements.
2. It shall require for admission at least four years high school education, this to consist of 15 units as evaluated before matriculation in the medical school.
3. It shall require that regular students who are candidates for the M.D. degree be in actual attendance in the school within two weeks of the beginning of each annual session and thereafter.
4. That actual attendance of classes be insisted upon, and that no credit be given under any circumstances for less than 80 per cent. of attendance on each course. The evidence of such attendance shall be determined by actual roll call, or monitor's record.
5. That advanced standing be granted only to students of other acceptable colleges after official credits covering entrance credentials and medical work have been received directly from the officers of said college.
6. There shall be careful and intelligent supervision of the entire school by a dean or other executive officer who holds and has sufficient authority to carry out fair ideals of medical education as interpreted by modern demands.
7. There shall be a good system of records showing conveniently the credentials, attendance and grades of the students, and the original credentials presented by the student for entrance or advanced standing shall be kept on file.
8. The college shall give a fully graded course covering four years of at least thirty-two weeks each, exclusive of vacations and holidays, and at least thirty hours per week of actual work, for such student shall be maintained and this course shall be clearly set forth in a carefully prepared and printed schedule of lectures and classes.
9. There shall be two years of work, consisting largely of laboratory work in thoroughly equipped laboratories in anatomy; histology; embryology; physiology; chemistry, inorganic, organic and physiological; bacteriology; pathology; pharmacology and clinical diagnosis.
10. There shall also be two years of clinical work, largely in hospitals and dispensaries, with thorough courses in internal medicine (including physical diagnosis, pediatrics, nervous and mental diseases) surgery (including surgical gynecology, surgical anatomy, orthopedics, operative surgery on live animals or on the cadaver), obstetrics, laryngology, rhinology, ophthalmology, otology, hygiene and medical jurisprudence.
11. The college must have expert, thoroughly trained instructors in the laboratory branches and also a reasonable number of trained assistants in each department.
12. The college should own or control, or have access to for teaching purposes, a hospital in order that its students may come into close and extended contact with patients under the supervision of the attending staff. The hospital should

have a sufficiently large number of patients to permit the students to see and study the common varieties of surgical and medical cases, as well as a fair number in each of the so-called specialties.

13. The college must have facilities for and require at least five maternity cases for each senior student, who should have actual charge of these cases under the supervision of the attending physician.

14. The college must have a dispensary department under the control of the college and the material must be well used for the benefit of the senior classes.

15. The college shall have a working medical library to include the more modern text-books, reference books and medical journals. The library room must be easily accessible to students, during all or the greater part of the day.

16. The college must have a working medical museum with its various anatomic, embryologic, pathologic and other specimens carefully prepared, labeled and indexed so that any specimen may be easily found and employed for teaching purposes.

17. A supply of such useful auxiliary apparatus as the stereopticon, a reflectoscope, carefully prepared charts, embryologic or other models, manikins, a Roentgen ray outfit and other apparatus generally used in medical teaching.

18. The college should show evidence of modern methods in all departments and evidence that the equipments and facilities are being intelligently used in the training of medical students.

19. The college shall publish a clear statement of its requirements for admission, tuition and other charges, time of attendance on the classes, sessions and graduation, together with complete lists of its matriculants classified by classes and latest graduation classes in regular catalogue announcements.

The Ohio board recognizes only the following schools in Illinois: College of Physicians and Surgeons, Chicago, Northwestern University Medical School, University of Chicago, Rush Medical College.

The list of the homeopathic colleges is not yet prepared.

We understand also that the Iowa board has made, or will make soon, similar rules governing the admission of candidates for licensure in that state. Minnesota, Wisconsin and Indiana are working along the same line, and the fact is becoming apparent that Illinois must radically change conditions or fall far behind in the contest for supremacy of its real medical schools.

DR. CORWIN'S PREAMBLE AND RESOLUTION

Dr. Corwin, under the head of new business: I wish to submit the following resolutions:

WHEREAS, Much has been said and written of late, just and unjust, with regard to medical education, medical practice and medical licensure in Illinois; and

WHEREAS, The public of our great state and neighboring states must have a distorted idea of the profession of Illinois because of untruthful, biased and prejudiced statements that have appeared in the public press and in various partisan medical journals; and

WHEREAS, The medical profession of this state, as a whole, is obviously ignorant of the provisions of our present Medical Practice Act as far as the regulation of medical education is concerned; therefore, be it

Resolved, By the Council of the Chicago Medical Society, that in the interests of truth and justice, and to promote the cause of higher education and improve medical practice in Illinois, the situation should be thoroughly, honestly and officially investigated and the findings given due and prompt publicity; and be it

Resolved, That the president of the Chicago Medical Society be, and is hereby, requested to appoint a special commission of representative members of the Chicago Medical Society to be known as the Chicago Medical Society Council Commission on Medical Education, to be convened by the president of the Chicago Medical Society as chairman and member of the committee.

Resolved, That the number composing the commission shall be such as in the judgment of the president shall best meet the requirements.

Resolved, That the chairman shall invite to convene and act with said commission the following representatives: The Legislative Committee of the State Medical Society, The Public Relations Committee of the Chicago Medical Society, the Committee on Medical Education of the Illinois State Society and the State Board of Health.

Resolved, That the object of said Commission, working as far as may be in harmony with the other representatives mentioned, shall be to carefully scrutinize our present medical law and the medical laws of other states and countries, and after adequate study of the whole question of medical education shall draft an adequate law or frame amendments to the present law, if need be, and shall make a full report to the Council, with further recommendations, to the end that organized medicine of this county and state may arouse itself for the good of the profession and the people.

I move the adoption of these resolutions, and that a copy be sent to the editors of the *Illinois Medical Journal* and the *Journal of the American Medical Association* for publication.

Seconded by Dr. Harvey. Carried.

NEW MEMBERS OF THE STATE BOARD OF HEALTH NOT YET ANNOUNCED

Up to the time of going to press no announcement has been made of members of the State Board of Health to fill the vacancies caused by the resignations announced in our last issue. We understand the Governor has been besieged by delegations and that the usual efforts have been made to have "pull" and "politics" dominate these appointments instead of efficiency and high character. Speaking in behalf of the State Society, we wish here to record our positive knowledge that no slate has ever been prepared by the officials of our organization. On the contrary we believe that the members of the society, now more than 5,000 in number, stand ready to give hearty and efficient support to a board composed of high-grade men laboring not for the political interests of any office holder, but for the conservation of the life, health and happiness of the people.

It is certain that the people as well as the profession of this state expect to see the new board composed of men of the very highest standing and professional ability, especially interested in solving the numerous and important questions of sanitation and education which have been too long neglected.

To appoint a board composed of political hacks or of men of mediocre ability will only serve to increase the dissatisfaction which now so universally exists.

THE AMENDMENT TO THE CONSTITUTION AND BY-LAWS

As many of our members know, certain amendments were proposed at the meeting of the State Medical Society at Aurora, and copies of these amendments were sent to the various societies for their action. The amendments are quite radical and should receive honest consideration before final action is taken by any society instructing delegates to the Springfield meeting. It is difficult for members who do not follow closely the discussions in the House of Delegates to understand the significance of these amendments.

The amendment to Article 3, offered by Dr. Zurowski, is apparently intended to reduce as much as possible the down state representation in the House of Delegates, and thereby make it more easy for the Chicago delegates to control the state society. It may be desirable for Chicago to control the state society, but there are many who think that this is no more desirable in the State Medical Society than it is in the State Legislature. Many of the people having such a view are residents of Chicago, who have appealed to the down state members to prevent it. The Zurowski amendment would of course prevent the councilors who represent the state society, for 362 days in the year, from being a part of the official organization during the remaining three days. This would be an anomalous monstrosity unknown to pathologists of medical politics.

The meaning of the amendments to Article 3 of the Constitution, and Chapter 10, Section 4 of the By-Laws known as the Black amendments, is simply to prevent any one section of the state securing and holding control of the state society. The first amendment is to allow the branch societies in Chicago to secure a charter and become component units of the state society if they so desired.

Careful reading of the amendment will show that there is no coercion about this matter. It is still left in the hands of the branch societies which compose the Chicago Medical Society to determine which form of representation they will select. The amendment was introduced because numerous members of these branch societies expressed a desire for this form of representation.

The down state members and perhaps many members of the Chicago Medical Society do not understand that the membership at large in Cook County has nothing to say in the election of delegates to the state society. In that county, if we are correctly informed, this is done by the council, which has a membership of fifty. In other words, fifty members, and even a less number, of the Chicago Medical Society composed of approximately 2,000 members, elect whomsoever they please to represent this society in the House of Delegates. This may be the best plan, but many members of the Chicago Medical Society think that it would be far more democratic to give the branch societies the right to elect delegates to the state society by direct ballot of members. The amendment in no way forces this on Cook County, but simply gives them the opportunity to select it if they so desire.

The second amendment is for the same purpose, namely, to prevent the delegation of one county from transacting business in the name of

the state society. Cook County has more than twenty delegates and, therefore, it would be possible for the delegation from one society (Cook County) to become a quorum of the House of Delegates and transact business. For this reason it has seemed to many members of the state society only fair to amend this article so as to distribute the twenty delegates forming a quorum over at least ten counties. We cannot see what possible objection anyone could raise to this amendment if they have the best interests of the society at heart.

The amendment is so framed that a county must have more than three hundred membership residing within its limits before it can have a branch society entitled to receive a charter and that such branch society must contain not less than seventy-five members living within a definite circumscribed district. This branch society shall be constituted of not less than 50 per cent. of the legally qualified physicians in such a district. In other words, this makes it possible for any county having three hundred physicians to divide itself into districts and give each district society the rights and standing of a county society.

The state society is for the physicians of the state and should be conducted on the broadest and most liberal basis. Absolutely no constructive work has been possible at the annual sessions of the state society for the past two years. This contest over minor matters and the loaves and fishes should be eliminated at the Springfield meeting, and the state society should proceed to deal with the large problems which confront it and demand the best thought of broad-minded men.

INTRAVENOUS MEDICATION

Frequently during the past three or four years our attention has been called to the exploitation of certain preparations to be applied by intravenous injection in the bodies of people supposed to be afflicted with disease. The activity of the persons promoting these alleged remedies has been immensely increased since the advent of salvarsan. So great has this activity become and so dangerous are the results that are likely to follow that we deem it a duty to call attention to this matter and utter a warning against the promiscuous use of these preparations. We are sure that nothing can more rapidly bring reproach on the fair name of the medical profession than the unchecked growth of these hare-brained schemes.

A representative of THE JOURNAL recently was delegated to look up one of these preparations, and reports that it is being promoted by an old veterinary, who claimed to have perfected his solution by animal experiments of many years. Another solution we understand is being promoted by a druggist. The solution has been used on the human animal, by advice of the veterinary, about three years. This modern *elixir vitæ* is successfully used in many diseases, but the promoter does not enumerate them "because the skepticism common to progressive physicians would cause them to put a ban on it at once." It is therefore only recommended for "tuberculosis, anemia and a number of other diseases of lowered resist-

ance." "If the diseases and conditions in which the intravenous solution has been successfully used should be enumerated here, the skepticism common to progressive physicians would cause them to put a ban on it at once." "Therefore the wide range of its usefulness is not given here; stress is laid only on what can actually be accomplished and proved by anyone, and something is left for the interested physicians to find out from personal clinical experience."

The inventor claims to have cured himself of goiter, but the investigator is skeptical since all his inspirations are stridulous, and the existence of a tumor pressing on the trachea is strongly suspected. The cupidity of the investigator was appealed to in the matter of fees by the veterinary saying: "that the doctors were foolish to charge only \$15 for an injection, for it was worth several hundreds of dollars for each case."

A clipping from a recent issue of a Chicago paper would seem to indicate that one of the dispensers (name not found in Polk) of the preparation had taken the advice and charged \$400 for the treatments, and had actually obtained \$180 for it. A jury in the municipal court decided the victim did not have to pay the balance. The attorney of the sufferer expressed a belief that the treatment is a bare-faced swindle.

Another man in Chicago, a graduate of that high class school, the Chicago College of Medicine and Surgery, in 1909, testifies that he began using the solution soon after his graduation, and in ten months had given 162 injections. He had found it of "the greatest value as blood builder." "He got the best results in pernicious anemia, scrofula, etc.; no untoward effects."

Another person whose name is not found in Polk's directory had given twelve injections into the same patient, and expects to continue its use.

A firm of practitioners out in the state testify that they have given several hundred of the treatments, "every one has been beneficial."

It looks as if this treatment would appeal to the physicians who feel the need of a big fee about like the cure which works most effectively on the mind and the pocket book.

The range of diseases from which clinical reports are being received is quite extensive and serious results will probably follow the treatment in many cases owing to infection due to the use of the hypodermic syringe.

In connection with this investigation we have come across the names of at least three persons apparently holding the degree of M.D. and practicing in Chicago without a license. What is the need of a license in Illinois, anyhow?

NOISE MADE IN 1899. ECHOES ARE STILL BEING HEARD

In looking over the early volumes of THE JOURNAL, we came across the following screed from the pen of Secretary Egan, written in 1899, which sounds a great deal like what he is saying in this year of our Lord, 1911, Volume 1, pp. 284-5, ILLINOIS MEDICAL JOURNAL:

"It may be, as alleged in the *Record* this morning, that unlawful practitioners are bold and numerous in Chicago. If such be the case this office has no knowledge of the fact. Undoubtedly, however, in Chicago, as in large cities in other states having laws far more stringent than those in effect in Illinois, the statute regulating the practice of medicine is not strictly complied with. That this law should be violated in some instances is perfectly natural. In this connection, however, there is a wide difference between a professed treatment and actual practice. Proof of the latter is always difficult, often impossible to obtain. I refer now to proof sufficient to convince the average jury. Statements to the effect that quacks, i. e., unlicensed practitioners, have flourished during the last two years as never before in the city are not sustained by facts. In truth, the very reverse is the case. Equally false is the assertion that the advertisements of these unlawful practitioners, who are reported both 'bold and numerous,' are 'conspicuous in the newspapers.' In neither the *Record*, the *Tribune*, the *Inter-Ocean*, the *Times-Herald* nor the *Chronicle* of this morning can be found the advertisement of even one physician who is not licensed by the Illinois State Board of Health on examination or on the presentation of a diploma from a medical college recognized by the board. In the majority of instances the licenses in question were issued before the present board assumed office. It is true that in a few cases there are midwives who, usurping the functions of the physician, advertise to treat human ailments. It is likewise true that in every case an authorization for the prosecution of the violator of the law has been issued by the board. It is also a fact authorizations have been issued for the prosecution of every non-registered practitioner who has advertised in the daily papers of Chicago during the last month. In some cases a conviction has been secured. In others suits are still pending.

"Parenthetically in this connection, it may be stated further that in every case when a violation of the medical practice act is reported to this office, a warning notice is immediately sent to the violator. Should not the practice reported be discontinued after a reasonable time, an authorization for prosecution is issued. This board has never received instructions from any one to disregard the practice of certain non-licensed practitioners. The issuance of an authorization, however, does not convict the violator of the law. Proof of practice must be obtained. This is rarely furnished by the persons making the complaint, and the board has yet to receive in the enforcement of the law the assistance of those who are so freely criticizing it.

"So far as 'immunity,' petty blackmailing and favoritism are concerned, this office has no knowledge of such, although it is claimed that these practices are 'too common to attract much attention.' No charges of this character have ever been made, even anonymously, to this office during the two and one-half years I have been Secretary. Undoubtedly, however, it is possible that certain persons claiming to represent the board have called upon presumed violators of the medical-practice act, and under threats of prosecution have compelled the delivery of money, jewelry and other articles of value. This board, however, is no more

responsible for this than is the city of Chicago for the bogus inspectors claiming to represent different departments in the city hall, who, under various plausible pretenses, obtain entrance to dwellings and ransack the same, after sending the occupants to the garret or the basement on various will-'o-the-wisp chases. The enactment of the present medical-practice act was secured through the united efforts of the legislative committee for the Illinois State Medical Society and the State Board of Health, sustained by the influence of the majority of the physicians of the state. This law, though by no means the legislation desired by the committee, was the best that could be obtained. The members of the State Board of Health and of the committees referred to were unanimously in favor of the bill originally introduced creating a State Board of Medical Examiners, leaving the State Board of Health free to perform sanitary duties alone. It was only when the impossibility of securing such legislation became apparent that a compromise bill was introduced, covering the salient features embraced in the proposed bill and the act then in force, the creation of a new board alone excepted. There would have been no difficulty whatever in obtaining the law desired had the physicians of the state given less heed to the misrepresentations of those who desired to remove from the statutes all medical laws whatever.

"The law in effect, which received in the house of representatives 129 votes in the affirmative and none in the negative—this, too, when not over 130 members were in the assembly—has received the endorsement of the Illinois State Medical Society and of various county medical societies in the state. Its imperfections—there are many—can be easily remedied two years hence if the medical profession of the state so will. I personally am in favor of the reintroduction, with slight modifications, of Senate Bill No. 167 (Mr. Gardner), 'for an act to establish a State Board of Medical Examiners, prescribing its powers and duties, to provide for the licensing of practitioners of medicine and midwifery, and to regulate the practice of medicine and midwifery in the State of Illinois, and to repeal all acts or parts of acts conflicting therewith.'"

DR. McCORMACK'S VISIT TO ILLINOIS

For the past few weeks Dr. McCormack of Kentucky, official organizer of the American Medical Association, has been addressing the people and profession of this state, and as always has made a splendid impression. We have not heard from all the points, but we learn that at Mt. Vernon the largest church in the city was filled with an intelligent audience, who were delighted with his quaint humor and manner of presenting wholesome truths. Owing to some misunderstanding his visit to Springfield was made on very short notice, and was not as well advertised as it might have been. The weather was bad, but a good audience heard his talk at the Y. M. C. A. Auditorium and frequently expressed approval by hearty applause. Governor Northcott presided in a happy manner. Dr. McCormack's suggestion that a local organization be formed to encourage sani-

tation and morality along modern lines was taken up with enthusiasm. Governor Northcott was made president; Mrs. Dr. George F. Stericker, vice-president; Mr. Louis Coleman, secretary, and Prof. F. D. Thompson, treasurer. Meetings will be held every Sunday, the first, on November 26, being devoted to medical inspection of the public schools.

The universal regret wherever Dr. McCormack has spoken is that more people have not been able to hear him. We only wish that his voice might be heard by every citizen of the state.

In a talk with Dr. McCormack we learned that he has in no way changed the opinion he expressed on his former visit, that Illinois lags far behind sister states in her sanitary efforts and in regulating the practice of medicine. The fact that he did not bring out the brutal truth regarding our inefficient board of health was no indication of his approval of the board or its secretary. On the contrary, he regards Illinois and one other politically ridden state as the opprobriums of sanitation in the north.

CLINICAL CONGRESS OF SURGEONS—PHILADELPHIA SESSION

The second annual session of this organization—if such it might be called—was held in Philadelphia early in November, and proved to be equally as successful as the first session held in Chicago in 1910. Nearly two thousand attended and were highly entertained by the surgeons, hospitals and colleges of the ancient metropolis. There has always existed in the city of brotherly love a high standard professional honor which is markedly in evidence when the clans foregather on occasions such as this.

Together with about forty gentlemen from this state we attended, and take this occasion to express our appreciation of the entertainment, and to again urge the supreme importance of the clinical demonstrations and the desirability of instituting such methods of instruction at the meetings of our local and state societies. We are gratified to see that many of the county and district societies of Illinois are having clinics in place of or in connection with the literary exercises. Sometimes foreign talent is imported, but often as at the recent meeting of the Brainard District society at Bloomington, the clinics are very appropriately in the hands of the local profession.

ARMY MEDICAL CORPS EXAMINATIONS

The Surgeon General of the Army announces that preliminary examinations for the appointment of first lieutenants in the Army Medical Corps will be held on Jan. 15, 1912, at points to be hereafter designated.

Full information concerning these examinations can be procured on application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between 22 and 30

years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as an intern, after graduation. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

The examination in subjects of general education (mathematics, geography, history, general literature, and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the Adjutant General at least three weeks before the date of examination. Early attention is therefore enjoined on all intending applicants. There are at present sixty-four vacancies in the Medical Corps of the Army.

MORE GALL-STONE CURES

A few years ago we were wont to read much about the wonderful cures wrought by the gall-stone remedy "probilin," but rather lost interest in it when we learned from the Council on Pharmacy and Chemistry that it had been exploited to us under a false formula. Now another gall-stone remedy seems to be in the ascendancy. This one is a plain humbug and is exploited directly to the public. We first heard of it as fruitola, hailing from Los Angeles, Cal. Next the Chemical Laboratory of the American Medical Association reported its exploitation in Chicago under the name "Mayr's Wonderful Stomach Remedy." Now comes a report from Asheville, N. C.,¹ that a company of medical fakers which claimed to depend on such mild and harmless remedies as "radium treatment" and "electric treatment" really made use of the drastic olive oil-saline cathartic swindle. It is thus seen that this gall-stone fake is "sweeping" the country. Let us hope that the action of the Buncombe Medical Society, which was instrumental in driving these medical fakers from Asheville, will influence those located on the shores of the Atlantic to sweep it into the sea, on its arrival there.

THE PUBLIC DISTRUSTS "PATENTS"

The growing disinclination of the public to dose itself with "patent medicines" of unknown composition and doubtful origin has been well shown by the phenomenal success of the "prescription fake" in which the "patent" is hidden away in a respectable appearing formula or "pre-

1. Jour. Am. Med. Assn., Nov. 4, 1911, p. 1553.

scription." Now we learn of another scheme to make the public believe that it is taking an "open formula" preparation. A "patent" called Hesperian Tonic, put out by a concern with the somewhat imposing title, Temple of Health Medicine Company, of San Francisco, Cal., bears on the label a formula in German.

According to the formula, the preparation should contain spirits of ethyl nitrite, solution of ferric chlorid and water, and the analysis made in the American Medical Association chemical laboratory (JOURNAL A. M. A., Nov. 25, 1911) suggests that these articles were probably used in making the preparation. That the ingredients reacted after mixing and formed new ones the promoters could not be expected to know, for he who would be successful as a patent medicine exploiter has more important matters to engage his attention than mere matters of chemistry and pharmacy.

The following are some of the cruelly false claims made for this nostrum:

"A positive cure for diphtheria, scarlet fever, measles, pneumonia."

"A sure, safe, speedy and permanent cure of that most dangerous disease: Diphtheria."

"A great destroyer of all parasites, animalculæ and microbes of the blood."

The case of Hesperian Tonic illustrates forcibly how well the public distrust of "patents" is founded.

NOSTRUM ADVERTISEMENTS IN NEWSPAPERS—AND ELSEWHERE

In commenting on letters received from subscribers who protest against the nostrum advertisements carried by newspapers, *The Journal A. M. A.* (Nov. 18, 1911, p. 1702) says:

"Such letters are vibrant with indignation and filled with anathemas against the venality and sordidness of the American newspaper. While we fully agree with our correspondents' point of view, we are unable, in a majority of cases, to work ourselves into the same fine frenzy they exhibit. We know that, in too many instances, the writers of such letters are subscribing for, contributing to and in other ways lending their financial and moral influence toward the upkeep of medical journals whose advertising pages reek with frauds just as vicious as those that appear in the yellowest of yellow journals."

It then advises that all those who feel outraged by such newspaper advertisements should discontinue their support of this objectionable class of medical journals. If the advice is followed with any degree of unanimity the objectionable advertisements would almost at once be banished from medical journals, for nostrum promoters would not want to advertise in those journals that have no subscription list.

SOCIETY OF MEDICAL HISTORY OF CHICAGO

We have received the first issue of the *Bulletin of the Society of Medical History of Chicago*, bearing date of October, 1911, and containing nine interesting articles of considerable importance not only to the medical men of Chicago, but of the entire country.

Dr. Howard A. Kelly, of Baltimore, contributes an interesting history of the "Early American Medical Botanists"; Dr. O. B. Will, of Peoria, contributes a chapter on the "Pioneer Period of Medicine in Illinois," which had previously appeared in the columns of this journal, and Dr. Mortimer Frank, of Chicago, an article on "Caricature in Medicine," which is illustrated. The remaining articles refer to Chicago and Cook County, but are nevertheless of importance to all historiophilic readers. We understand the price of this *Bulletin* is \$3 per volume of approximately 400 pages, and that it can be obtained by addressing Dr. George H. Weaver, the secretary, 1743 West Harrison Street, Chicago.

We are glad to welcome this sort of publication in Illinois, and prophesy a successful career for the *Bulletin*.

MINUTES OF COUNTY SOCIETY MEETINGS

This journal has been established for more than twelve years, and we had labored under the delusion that its functions were well defined. Great was our surprise therefore when Secretary George H. Hunt, of the Edgar County Society, in sending for the first time in all these years the minutes of a meeting of that organization, inquires whether his communication would be welcome. Possibly other secretaries are uninformed and for these and all others we will say what was written in reply to Dr. Hunt. The ILLINOIS MEDICAL JOURNAL was instituted and has always been conducted for the sole purpose of promulgating the minutes and transactions of the Illinois State Medical Society and its component societies, which, of course, includes every medical organization within the borders of this commonwealth. If minutes of every meeting held do not appear, it is because they are not furnished.

OSTEOPATHIC AND OPTOMETRY LEGISLATION

LEGISLATIVE INDEX INDICATING NAMES OF LEGISLATORS WHO IN THE
FORTY-SEVENTH GENERAL ASSEMBLY VOTED FOR OSTEOPATHIC
BILL (HOUSE BILL NO. 380) AND OPTOMETRY
BILL (SENATE BILL NO. 140)

O. S. after a legislator's name signifies that he voted for the Osteopathic Bill. O. P. after a legislator's name signifies that he voted for the Optometry Bill; all these men should be defeated should they seek reelection. H. M. after a legislator's name means "honorable mention" and

indicates that the Senator or Representative after whose name it appears voted either against the Optometry or Osteopathic bills. The legislators with H. M. after their names, should they seek reelection, are entitled to the united support of the physicians in their respective districts.

Many members of the House and Senate had no opportunity to express themselves for or against these bills, due to the fact that they were considered in committee only, and when under consideration in committee a number of legislators found it convenient to be absent or not voting. However, all legislators whose names are not mentioned favorably or unfavorably in this index should be given the benefit of the doubt should any of them seek reelection. The following is the index:

FIRST DISTRICT

The First and Second wards, Chicago.

Representative Noble B. Judah, Jr.—H. M.

FOURTH DISTRICT

The Twenty-Ninth and Thirtieth and part of the Thirty-First Ward, Chicago.

Senator A. F. Gorman—O. P.

FIFTH DISTRICT

Parts of the Sixth and Seventh wards, Chicago.

Representative W. T. Ap'Madoc—H. M.

Representative Morton D. Hull—H. M.

SIXTH DISTRICT

Twenty-Fourth and Twenty-Sixth wards, and part of Twenty-Third Ward, Chicago, and parts of the towns of Evanston, Niles, and New Trier, Cook County.

Senator William M. Brown—O. P.

Introduced and fathered the Optometry Bill.

SEVENTH DISTRICT

Towns of Thornton, Bloom, Rich, Bremen, Orland, Lemont, Palos, Worth, Lyons, Stickney, Proviso, Leyden, Elk Grove, Schaumburg, Hanover, Barrington, Palatine, Wheeling, Northfield and parts of the towns of New Trier, Niles, Norwood Park and Maine, all in the County of Cook.

Senator William H. MacLean—O. P.

Representative Louis J. Pierson—H. M.

Representative Frederick B. Roos—H. M.

EIGHTH DISTRICT

Counties of Boone, Lake and McHenry.

Senator A. J. Olson—O. P.

Representative E. D. Shurtleff—H. M.

NINTH DISTRICT

Parts of the Fourth, Fifth and Twelfth wards, Chicago.

Senator P. J. Carroll—O. P.

TENTH DISTRICT

Counties of Ogle and Winnebago.

Senator Henry Andrus—O. P.

ELEVENTH DISTRICT

The Thirty-Second Ward and part of the Thirty-First Ward, Chicago.

Senator Carl Lundberg—O. P.

Representative J. J. O'Toole—H. M.

TWELFTH DISTRICT

Counties of Carroll, Jo Daviess and Stephenson.

Representative Martin J. Dillon—H. M.

FOURTEENTH DISTRICT

The counties of Kane and Kendall.

Representative Frank R. Ried—O. S.

SIXTEENTH DISTRICT

The counties of Livingston, Marshall, Putnam and Woodford.

Senator I. M. Lish—O. P.

NINETEENTH DISTRICT

The Thirteenth and Thirty-Fourth wards and part of the Twelfth Ward, Chicago, the town of Riverside and part of the town of Cicero, Cook County.

Senator John T. Denvir—O. P.

TWENTIETH DISTRICT

Counties of Grundy, Iroquois and Kankakee.

Representative Frank M. Crangle—O. S.

TWENTY-FIRST DISTRICT

The Fourteenth and parts of the Seventeenth and Thirty-Fifth wards, Chicago.

Senator John E. Madigan—H. M.

TWENTY-FOURTH DISTRICT

The counties of Champaign, Moultrie and Piatt.

Senator Henry M. Dunlap—O. P.

TWENTY-FIFTH DISTRICT

The Twenty-Seventh and Twenty-Eighth wards, Chicago.

Senator Johan Waage—H. M.

TWENTY-SIXTH DISTRICT

The counties of Ford and McLean.

Senator Frank H. Funk—H. M.

Representative D. D. Donohue—O. S.

TWENTY-SEVENTH DISTRICT

The Eighteenth Ward and parts of Sixteenth and Seventeenth wards, Chicago.

Senator John Broderick—O. P.

TWENTY-EIGHTH DISTRICT

Counties of DeWitt, Logan and Macon.

Representative E. C. Perkins—O. S.

Representative Cyrus J. Tucker—O. S.

TWENTY-NINTH DISTRICT

Parts of Twenty-First and Twenty-Second wards, Chicago.

Senator John M. O'Connor—H. M.

THIRTIETH DISTRICT

Counties of Brown, Cass, Mason, Menard, Schuyler and Tazewell.

Senator Walter I. Manny—H. M.

THIRTY-FIRST DISTRICT

Parts of Twenty-First, Twenty-Second, Twenty-Third and Twenty-Fifth wards, Chicago.

Representative Franklin S. Catlin—H. M.

Representative Harry L. Shaver—H. M.

THIRTY-THIRD DISTRICT

Counties of Henderson, Mercer and Rock Island.

Senator Frank A. Landes—H. M.

THIRTY-FOURTH DISTRICT

Counties of Clark, Coles and Douglas.

Senator S. P. Pemberton—O. P.

THIRTY-SIXTH DISTRICT

Counties of Adams, Calhoun, Pike and Scott.

Representative George H. Wilson—H. M.

FORTY-THIRD DISTRICT

Counties of Fulton and Knox.

Senator Charles F. Hurburgh—H. M.

FORTY-FIFTH DISTRICT

Counties of Morgan and Sangamon.

Senator Logan Hay—H. M.

FORTY-EIGHTH DISTRICT

Counties of Crawford, Edwards, Gallatin, Hardin, Lawrence, Wabash and White.

Senator James A. Womack—H. M.

Representative Charles L. Scott—H. M.

Representative James A. Watson—H. M.

FORTY-NINTH DISTRICT

County of St. Clair.

Senator John M. Chamberlain—O. P.

FIFTIETH DISTRICT

Counties of Alexander, Franklin, Pulaski, Union and Williamson.

Representative Robert P. Hill—H. M.

Public Relations Committee,
Chicago Medical Society.

J. V. FOWLER, M.D.

J. M. LAVIN, M.D.

C. J. WHALEN, M.D.

Legislative Committee,
Illinois State Medical Society.

L. C. TAYLOR, M.D.

M. S. MARCY, M.D.

C. J. WHALEN, M.D.

THE FIRST SURGICAL OPERATION IN ILLINOIS

Recently a tablet to the memory of the first settler in Sangamon County was unveiled at the County Court House in Springfield. This man, Robert Pulliam, located in the county in 1817, erecting the first dwelling, a log cabin, about ten miles south of the capitol. Mr. Pulliam, in 1808, when thirty-two years of age suffered from disease of the tibia for which an amputation of the leg was performed by Dr. Tuthill of Cahokia. This is said to be the first surgical operation performed in the state, and of course was made without the administration of an anesthetic or sedative. Mr. Pulliam bore the operation stoically and survived twenty-nine years, but notwithstanding this proof of the beneficent effects of the procedure, the *Springfield News* headed its account of the operation with the statement that Mr. Pulliam was the "Victim of First Operation." No wonder the people fear the surgeon.

Correspondence

RED CROSS CHRISTMAS SEALS

To the Editor:—Throughout the state of Illinois, beginning December 2, the Red Cross Christmas seals will be sold in the war on consumption being waged by the Illinois State Association for the Prevention of Tuberculosis. These seals, which are to be placed on the backs of letters, are issued directly by the National Red Cross Association, of which President Taft is president.

The annual sale of these seals, the proceeds of which are devoted entirely to the fight on tuberculosis and relieving the suffering of mankind, begins simultaneously throughout the United States. And in those states where the most seals are sold, there correspondingly is where the most effective work in checking the advance of death is being done.

Just how much is done in Illinois' fight against tuberculosis next year depends almost wholly on how many seals are sold the coming month. It is, therefore, vital in this life-saving work, to sell as many as possible of these seals; and the Illinois State Association is making plans by which it hopes to give every man, woman and child in the state the opportunity of buying at least two.

To reach every corner of each county throughout the state, the State Association, through its secretary, James Minnick, 157 West Adams Street, Chicago, has sent out a state-wide call for volunteers in every town where there is not an organized antituberculosis body working with the state organization. The association wants active workers who will assume charge of the local seal sale and already letters are coming in from live clubs, organizations and public spirited citizens who are volunteering to aid in the work.

Illinois, through its lack of organization, has fallen way below in the annual sales of these stamps, and those having in charge the campaign against tuberculosis are using every effort to bring the state to the front ranks where it belongs.

The popularity of the Red Cross Christmas seals is indicated by the early orders from centers where there are effective organizations in the field. Following are some of the orders for seals now on file in the Chicago office:

Peoria Association for the Prevention of Tuberculosis.....	500,000 seals
Lake County Tuberculosis Institute.....	100,000 seals
Knox County Anti-Tuberculosis Association.....	100,000 seals
McLean County Anti-Tuberculosis Association.....	50,000 seals

Peoria's original order was for 250,000, but so popular became the campaign that the amount wanted was doubled before even one had been placed on sale.

A list of prizes for cities and individuals for the highest per capita sale of seals is being prepared and will be announced later through this paper. For the towns that have organizations formed before the first of December, the easiest way to raise funds to carry on the work is through the sale of seals.

Every worker in this campaign can bring direct results in checking consumption, which kills one nearly every hour in Illinois throughout the year. Any one who will aid in this vital work should write to the secretary, 157 West Adams Street, Chicago.

JAMES MINNICK.

POULTRY RAISERS, ATTENTION!

To the Editor:—The poultry industry has grown to such proportions that it is now a matter of great national importance.

The Department of Agriculture has prepared a number of excellent bulletins on the subject, all of which are of great value to poultry raisers.

As I do not know just who are interested in these bulletins, and as I cannot get enough of them to send one to each family in the district,

I take this plan of reaching poultry raisers, and of asking them through your valuable paper to write me for such bulletins on the subject as they have not already gotten.

Very sincerely yours,

Springfield, Ill.

JAMES M. GRAHAM, M.C.

A CORRECTION

CHICAGO, Nov. 14, 1911.

To the Editor:—In my article "A New Tonsil Hemostat, etc.," appearing in last issue of THE JOURNAL, a cut of the Sluder guillotine appears. My manuscript contained or should have contained statement that the power handle as shown was suggested by William L. Ballenger of Chicago and devised by V. Mueller. While this does not change the principle of Sluder's instrument it adds to its efficiency. The credit of the device and the general method of its use belongs to Sluder, but credit should also be given Ballenger for this improvement. Will you kindly publish this letter in the next issue of THE JOURNAL. Very truly,

A. M. CORWIN.

SOME OF THE APPARENT REASONS WHY ILLEGAL PRACTITIONERS AND QUACKERY FLOURISH IN ILLINOIS

To the Editor:—When I wrote you Sept. 30, 1911, in regard to "faith healer" Smith of St. Elmo, I stated that he was reported to have had over 500 treatments registered ahead at that time, each fellow waiting his "turn." On November 1, I was informed by persons just coming from there that he had about 1,700 treatments registered ahead. I have been further informed that he charges \$1 for the first thirty treatments given each day, and \$2 for all after the first thirty, as well as on Sunday. As stated in my other letter, suit was brought before a St. Elmo Justice in October, 1910, but of course Smith won the suit. Along about the same time a suit was brought in a Justice's court in Shelby County, I think at Windsor, in which Smith also won. These suits are the first and only ones ever brought against this man Smith, as far as I now know, though Dr. Egan's office must have received extensive correspondence in regard to this man's illegal practice in the last few years, from various doctors, many of whom probably had experiences similar to the following:

A Dr. H. stated to me that during the year 1910, he called Dr. Egan's attention to Smith's practice at St. Elmo; that in return he received a letter from Dr. Egan saying that if he could cite instances in which he (Smith) had used material means, had rubbed, etc., he would authorize the State's Attorney to bring suit at once against him. Dr. H. in his second letter to Dr. Egan cited four patients who had recently been treated by Smith, and in each instance they had been rubbed as a part of

the treatment, but he has never had an answer to that letter from Dr. Egan from that day until this.

From my correspondence with physicians over the state it seems that not a few fail to get beyond just this point in their correspondence with Dr. Egan.

I have understood in many indirect ways that "faith healer" Smith of St. Elmo within the last year is reported to have said to many of his patients that he has a State Board of Health license in Illinois, and to others that he has as much right to practice in Illinois as any one else, and that he cannot be stopped, and so on; in other words, it is very common to hear those who have visited him passing about statements of this kind, said to have come from Smith himself. How can this be?

About two months ago I received a tip, to the effect that a certain banker in St. Elmo had read a letter which had been written to this man Smith, and which as gossip had it, had come from the State Board of Health. I went to St. Elmo on the first train next morning to have a talk with the banker about this matter, but could not get an interview with him, as he did not wish to be drawn into the limelight of this thing. One of the St. Elmo physicians at my request, however, called on the banker, at which time the latter is reported by this physician to have made about the following statement in regard to this letter:

That something like a year ago Smith handed him a letter, asking him to read it and to advise him accordingly; that he read the letter in a hurried way as a mere matter of business; that the first clause of the letter is reported to have stated to Smith in effect that the suits which had recently been filed against him had been withdrawn, etc.; that the next clause is reported to have stated that there would be no further prosecutions against him. According to my further information, this banker is reported to have asked Smith if this letter was from the people who had been prosecuting him, and Smith is reported to have said it was. The banker is reported then to have informed Smith that he saw no reason why he should fear the law in his work, if the letter in question had come from those who had been prosecuting him, but advised him to file the letter.

Having been interviewed probably nearly a year after he had seen the letter in question, the banker is reported to me to have stated that he could not say definitely that this letter was written on Illinois State Board of Health stationery. The words above, however, are not intended as exact quotations from the letter in question, as the banker could not, of course, remember this letter word for word, but they are reported to have been given out by him as being a brief statement of the sense of the letter—the meaning which was conveyed by it.

This banker does not say who wrote this letter to Smith; neither does my informant, and neither do I. I leave the profession of the state to judge for themselves. To further elucidate this matter, however, I will say that this suit was not brought by the State's Attorney in Fayette County, but that it was brought by Attorney Burris of St. Elmo, who lives in the

same town with this banker, jointly with Attorney Albert of Vandalia, the county seat of Fayette County, which is located about 14 miles from St. Elmo. Mr. Welker, the State's Attorney in that county, having nothing to do with the suit, of course would not have been expected to write such a letter to the defendant. He stated to me, however, about a month ago that he did not know anything of it.

I have not inquired of Attorneys Burris and Albert as to whether they wrote such a letter to Smith or not, but as Burris has lived in this banker's town for several years, and as Albert has been a prominent attorney in the county seat, 14 miles from St. Elmo, for many years, it would seem that had either of these men written the letter in question that this banker, who must know both of them well, would have had no trouble to remember where the letter came from, nor that it would have been necessary for him to have asked Smith if the letter in question came from the people who had been prosecuting him, as the banker is reported to have done.

My readers may decide for themselves what, if any, relation exists between such a letter, which is reported to have been in existence, and the fact that this man Smith is still continuing in business without any further prosecutions, notwithstanding the fact that Dr. Egan's attention has been called to this thing many times, by many different doctors, within the last year.

Smith's patients say he rubs them, and in several interviews in papers lately he is reported as saying that he rubs and rubs hard in his treatments; that he always rubs downward; and states how he rubs differently in different conditions. In a personal conversation with Dr. Egan recently, I mentioned these facts to him, but he stated that Smith rubbed his patients in an effort to make a diagnosis; that he did not rub them as a matter of treatment, and that he (Smith) would be able to show in a suit that he rubbed as a means to diagnosis. I told him what Smith had been reported as saying in some of the newspapers, as above stated. Dr. Egan then stated that these newspaper reports could not be used as evidence, which, of course, I already knew.

In October this year a physician reported a case wherein Smith, in his treatment, had rubbed and pinched the patient's knee. In answering this letter Dr. Egan in part said: "As to Smith's form of practice, I will refer you to my letter of September 30, and will repeat that so long as he confines his treatment to mental means the State Board of Health can take no action against him. It is only when he uses a material remedy, when the board is empowered to act. In this connection I will say, referring to the patient there at ———, it is questionable whether the 'pinching of the knee,' which might be claimed to be for diagnostic purposes, would constitute a treatment. Here you must bear in mind that a diagnosis of a disease is not a violation of the law." This, then, shows clearly Dr. Egan's attitude in regard to the rubbing which Smith does.

A few weeks ago a lady came to us for a radical operation for cancer of the breast who had been treated during last February, March and April by a so-called "cancer quack," who is reported to be a non-medical

man. This lady came from Chrisman in the northern part of Edgar County, where this cancer quack by the name of Prichard has been practicing for the last several years, it seems.

I wrote to Dr. Egan about this man and his work, and of his treatment of this lady, and told him that my patient had informed me that this man had treated several in her neighborhood. In answer to this letter, Dr. Egan wrote, October 21, in part as follows: "As to the cancer specialist, A. L. Prichard, I have never heard of him. He may be practicing in Edgar County, but no one in the county has notified the board of this fact.

"If Prichard is treating a great many cases in the neighborhood of Chrisman, it seems strange the State Board of Health has not heard of it, for physicians in Edgar County have notified the State Board of Health of violations of the law, and there is a very energetic State's Attorney in that county, who will promptly prosecute Prichard or any one else.

"I am afraid we have again a case of 'street gossip.' However, I will investigate Prichard, and if he is practicing in Chrisman the State's Attorney will be asked to bring suit against him."

Being surprised at the manner in which Dr. Egan answered my report of this man's illegal practice, and of the little attention he seemed to give it, October 26 I wrote him as follows: "At the time I did not ask her" (my patient from Chrisman), "to be explicit as to whom she meant by 'several,' but to-day I asked her to give me a few of the names of those whom he had treated. She told me as follows: Mrs. Bonwell, who was living with her daughter, Mrs. Emma Hauston, and who lived in the country near Chrisman, where she thinks they get their mail. This treatment was given about a year ago for a supposed cancer of the face.

"A Mrs. Charles Sisson, who lives rather between Scotland and Dana, but she is not sure through which town she gets her mail, as the rural routes from both towns run into that immediate neighborhood. This treatment was for a supposed cancer under the arm, and as best she remembers, was given two or three years ago. A Mrs. Seldon Simpson, who lives in Scotland, and who was treated for a supposed cancer of the face five or six years ago, she thinks. This was the first patient treated by this man Prichard within the neighborhood of those towns. A Mrs. Elmer Jones, who lives north of Dana, in the country, and who probably gets her mail through that town. She was treated for a supposed cancer of the face within the last year. A Mr. Patterson, who lives near Elmer Jones, north of Dana, was being treated, so Prichard told her, during his visits to see her, though Mrs. P. (my patient) does not know this man, it seems. A Mrs. Owen Dixon, who also lives between Scotland and Dana, and who is a cousin of the Mrs. Seldon Simpson above named, was treated by this man for a supposed cancer of the breast, something near a year ago. A Mr. John Scott, who lived near Scotland, on the north, was treated for cancer of the lip about a year ago. It seems that this patient died while under treatment.

"Now, doctor, this list is sufficient to show that what I told you in this matter is probably not 'street gossip.' Had I thought there was nothing

to it, and no truth with which to back it up, I see no reason why you should have thought I would have written you as I did. For that matter, what better evidence would you want than that presented by Mrs. P. herself? She did not give me her own experience as hearsay. It was personal on her part.

"You will note in the list of cases above given that this man has been at work in that neighborhood for the last four or five years, as best Mrs. P. remembers now. She told me that he treated her as follows: That he assured her that he could cure her within two weeks; that he applied a plaster to the breast, leaving it on one hour, then applied cotton with a salve on it; that he repeated his treatment each day, the plaster for an hour, followed by the salve on cotton, for thirty-four days, in the first treatment; that every third day, or about that often, he made incisions across the top of the growth.

"Then she said he gave her the same sort of treatment for a few days at a time, three or four times more at intervals, the whole treatment occupying a space of something like three months, and that every time a piece of tissue came loose he told her that was all of it. For this treatment he charged her \$350, as I told you before. She told me that he had treated others through that section of the country besides the ones mentioned above, but not knowing them personally, she did not recall who they were at this time."

On October 30, in answer to this letter, Dr. Egan wrote to me as follows: "Discussing the witnesses whose names you give me, it will be very hard for me to find Mrs. Bonwell who is supposed to have lived in the country near Chrisman. As to Mrs. Charles Sisson, whose treatment was given two or three years ago, I do not feel the State's Attorney would bring suit for any practice occurring over two years ago. The same would apply to Mrs. Seldon Simpson. As to Mrs. Elmer Jones and Mr. Patterson who are supposed to live north of Dana in the country, I will say suits might be brought on the evidence of these patients, provided we can find the patients. The same difficulty would apply to Mrs. Owen Dixon, who lives between Scotland and Dana.

"Mr. John Scott, who lived near Scotland on the north—the same." (I told Dr. Egan in my letter that he was dead.)

"I should be glad if you would ask Mrs. P. to write me regarding the above-named persons, in whose cases the board can bring suit, giving the postoffice address or the township in which they live. If Mrs. P. is not with you now, would you not kindly write her? On receipt of her letter I will make further investigations, and if the matter seems to warrant it, will lay the matter before the State's Attorney of Edgar County and ask him to bring suit."

On November 1 Dr. Egan wrote to another physician in regard to this man Prichard, as follows: "As to A. L. Prichard, will say I am now investigating his practice in Edgar County. This was reported by Dr. Buckmaster of Effingham. There is no question but that Prichard is

violating the law, but I cannot understand why his practice has not been reported by Edgar County physicians, who are usually very alert when an unlicensed practitioner comes into the county."

I will leave it to the profession of the state to decide for themselves as to Dr. Egan's stand in this case, and if any physician has called his attention to this man's practice during these years, I will consider it a great favor if he will write me of the fact, giving me the most accurate data possible in the case. It is enough, however, at this time to cite the fact that Dr. Egan admits in his letter of November 1 that "There is no question but that Prichard is violating the law." But in his letter to me written two days earlier he wishes my patient to write him direct, even though I wrote to him exactly as she told me and all that she knew about the matter, and he ends by saying: "I will make further investigations and if the matter seems to warrant it will lay the matter before the State's Attorney of Edgar County and ask him to bring suit."

In closing, I will say that all violations of the Practice Act should be carefully reported to Dr. Egan, and that all letters received from Dr. Egan by any physician in the state should be filed and saved; and second, that I would be glad to hear from any physician interested in this matter, and especially who has knowledge of anything which would be of importance to the profession of the state. Very truly yours,

F. BUCKMASTER.

Nov. 21, 1911.

NURSING IN THE DISEASES OF THE EYE, EAR, NOSE AND THROAT. By the Committee on Nurses of the Manhattan Eye, Ear and Throat Hospital, New York City. 12mo volume of 281 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$1.50 net.

This practical work is the production of six physicians and one nurse connected with the Manhattan Hospital. While it is intended primarily for nurses, yet there are very many points which will be found of value by the general practitioner, and it could well find a place in every household. The book is profusely illustrated and entirely reliable.

THE PARASITIC AMOEBA OF MAN. By Charles F. Craig, M.D., Captain, Medical Corps United States Navy. From the Bacteriological Laboratory of the Army Medical School, Washington, D. C., and the Rockefeller Institute for Medical Research, New York City. Published with the Authority of the Surgeon General of the United States Army. J. B. Lippincott Company, Price \$2.50.

The valuable work of Dr. Craig speaks well for the medical corps of the United States navy, and is a distinct contribution to medical literature. As the author states in his preface, very little, if any, literature on this subject is to be found in the English language, and the matter is one of great importance especially in tropical regions. No doubt the research here recorded will be found valuable in other climates, and lead to a distinct advance in the treatment of many diseases. Amœbæ are found not only in the intestinal tract, but in the lungs, mouth and genito-urinary organs. Thirty figures assist greatly in understanding the text.

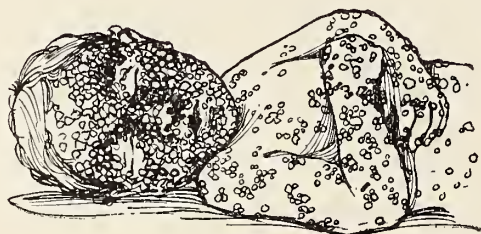
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Special Article

HISTORICAL PAPER

READ BY

DR. J. L. REAT AT NEWMAN, OCT. 19, 1911

Every child should have the best preparation of heart and hand for success in life the state can give, and public health is quite as important to the community as public education. Elementary health conditions should be made compulsory on every one; good health is the greatest asset a people can have.

Freak practitioners, their neophytes, bone setters, quid nuncs, charlatans, anatomists of melancholy and their ilk who still believe in the false traditions that woman has one more rib than man and who by their craft impose on the credulity of people may obstruct in some measure the science of medicine, yet it has made great progress in the past few decades. The surgery of to-day is a prodigy within itself. Sanitation means making healthy, the controlling or holding in check "the pestilence that walketh in darkness and the destruction that wasteth at noonday." Bacteriology, that branch of medical science which by the aid of the microscope gives enlarged images to minute objects, is discovering and tracing to their lair those disease-forming germs that are such an insidious yet prolific menace to health and even life itself.

Society owes a debt of gratitude to those self-sacrificing men, some of whom have lost their lives, who with patient fortitude, discovered for our benefit the mode of infection of yellow fever, of Asiatic cholera and have indicated to us how prophylactic means may be used to lessen the mortality of tuberculosis and other infectious and contagious diseases.

The recent discoveries and researches have shown how fatal maladies can be prevented or mitigated and longevity increased, both of which have been accomplished to a great extent, and what has been done is an evidence of the great benefit to be derived from a knowledge of the vital phenomena of organisms and their relation to chemical and physical laws, and which, if acted on, would add so much to the sum of human happiness by conferring a greater immunity — that is, freedom from liability to disease — on every man, woman and child in the land. How many advantages would be gained if the dissemination of physiology, which means the science of life-biology, was general.

The greatest physician of the future must and will be the great physiologists. He who can best correct the imperfections of a machine, is he who best knows its structure and action.

"Whosoever Will, to Him Shall be Given." Good citizenship will help to solve the question as eugenics points the way to be well born, and parents shall teach their children the duties of life, the dignity of all honest labor and respect for law, both human and divine, and mothers are given a voice in the selection of our public servants, for a ballot in the hands of good women will lessen the number of grog-shops and correct other vices in our body politic.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY

The regular monthly meeting of the Adams County Medical Society was held Monday, November 13, at Quincy, with President Knox in the chair. Others present were: Drs. Nickerson, Ball, Wells, Miller, Mercer, Pearce, Center, Austin, Stine, Williams, Ericson, Knapp, Bloomer, Haxel and Koch.

After the reading of the minutes, Dr. Nickerson spoke about the medical inspection of the public schools. He felt that the examination made by the physicians last year had been very beneficial to those examined, and much good had been accomplished. He stated that about 20 per cent. of the children were subject to defects which were amenable to treatment, and furthermore that many had been properly treated during the past year. At present it is not known what plans will be made by the Board of Education this year. It was moved and seconded that the secretary write Dr. W. K. Newcomb, the State President, to visit the society in the near future. The matter of the 'phone consolidation was brought up and thoroughly discussed; nothing definite was accomplished.

The noon hour having been reached the society adjourned to the Hotel Newcomb for lunch. In the afternoon the business meeting was resumed. The application of Dr. J. E. Miller was referred to the Board of Censors.

Dr. C. D. Center read a most interesting and instructive paper on "The Need of the Military Branch of the United States Government for the Civilian Practitioner of Medicine."

Those present seemed to enjoy the change from a strictly scientific medical essay to one treating of military discipline.

On motion meeting adjourned.

CARROLL COUNTY

The autumn meeting of the Carroll County Medical Society was held Oct. 10, 1911, in the Carnegie Library at Mt. Carroll. The following were present: Drs. Colehour, Fay, Harlan, Hendricks, Merchon, Metcalf, Packard, Replogle, Rice, Snyder and Stealy.

The following program was given: Morning Session, "Infantile Paralysis," Dr. S. P. Colehour; "Fractures, a General Consideration," Dr. Karl F. Snyder; "Paper," Dr. Alexander Gray. Afternoon Session, "The Los Angeles Meeting," Dr. J. L. Nathason; "An Account of Certain Clinical Cases," Dr. J. H. Stealy.

Drs. Stealy and Snyder of Freeport added very much to the interest of the meeting. At the annual election of officers Dr. E. L. Hendricks was chosen president, Dr. R. B. Rice, vice-president, and Dr. H. S. Metcalf, secretary and treasurer.

CLARK COUNTY

The Clark County Medical Society met at Westfield, October 12, 1911, at 2 p. m. The following members were present: Drs. L. J. and S. W. Weir, R. H. and S. C. Bradley, McCullough, Pearce, Hall, Anderson, Johnson, Bruce and Boyd. Visitors present were Drs. Marlow and Young. The president being absent, Vice-president Dr. S. C. Bradley called the meeting to order. Minutes of previous meeting were read and approved.

Dr. H. V. Anderson read a very interesting paper on "La Grippe" which was discussed by members present and many important points emphasized, some of

which follow: ample ventilation, guarded prognosis, complications accompanying and following, clothing and food for infants, medicine, symptomatic and tonic.

Dr. J. W. Marlow's application for membership was received and the doctor was elected unanimously.

Dr. E. E. Edmondson's application for membership was received, to be voted on at our next meeting.

A resolution from Dr. E. W. Weis, relative to members of a local medical society becoming *ipso facto* members of the A. M. A., was read and discussed; action upon which was deferred to give opportunity for further investigation by some of the members.

The amendments as recommended to the State Society By-Laws were discussed and the society voted to endorse them as recommended by Drs. Black, Zurawski and Coleman.

Upon motion duly seconded and carried the Society adjourned to meet at Casey, Thursday, Jan. 11, 1912, at 1 p. m.

S. C. BRADLEY, President, pro tem.

S. W. WEIR, Secretary-Treasurer.

COLES COUNTY

The Coles County Medical Society met at the Public Library, Mattoon, Ill. Vice-President G. B. Dudley was called to the chair. Dr. A. T. Summers gave a paper on "Peritonitis," which was excellent and brought out a good discussion. Dr. Gertrude H. Trauseau gave an excellent paper on "Infant Feeding, with Report of Cases," that was generally discussed. A vote of thanks was extended the essayists for their papers. About twenty members were present.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, Oct. 11, 1911 ..

A regular meeting of the Chicago Medical Society was held, Oct. 11, 1911, with the president, Dr. Joseph M. Patton, in the chair. Dr. J. R. Fletcher read a paper on "Clinical Vestibular Nystagmus." Dr. P. S. O'Donnell presented "X-Ray Findings in the Differential Diagnosis of Early and Late Pregnancies, Showing Fetus in Situ." Illustrated with stereoskiagraphs and lantern slides. Dr. J. Rawson Pennington presented "X-Ray Findings as an Aid in the Differential Diagnosis of Displacements and Abnormalities of the Rectum and Colon." Illustrated by stereoskiagraphs and lantern slides. Dr. Mark Jampolis read a paper on "The Influence of the Constitutional Diathesis in Infantile Nutrition."

THE USE OF THE X-RAYS IN THE DIAGNOSIS OF AFFECTIONS OF THE LARGE INTESTINE

J. RAWSON PENNINGTON, M.D.

CHICAGO

(Author's Abstract)

In June, 1900, I read a paper before the American Medical Association at Atlantic City on "New Points in the Anatomy and Histology of the Rectum and Colon." The following November I presented a similar contribution to the Chicago Medical Society. At the latter meeting I was severely criticized for the claims made by a gentleman who is now the head of the surgical department of one of our leading medical schools.

I reiterate the same claims formerly made, and wish to dwell on only one of the claims made at that time. In addition to specimens, charts, photographs, micro-photographs, microscopic slides, etc., I exhibited skiagrams of the large intestine and in discussing the position of the sigmoid said: "Skiagraphs, photographs and specimens, however, show that in the distended state in the cadaver it [the sigmoid] generally extends into the right iliac fossa."

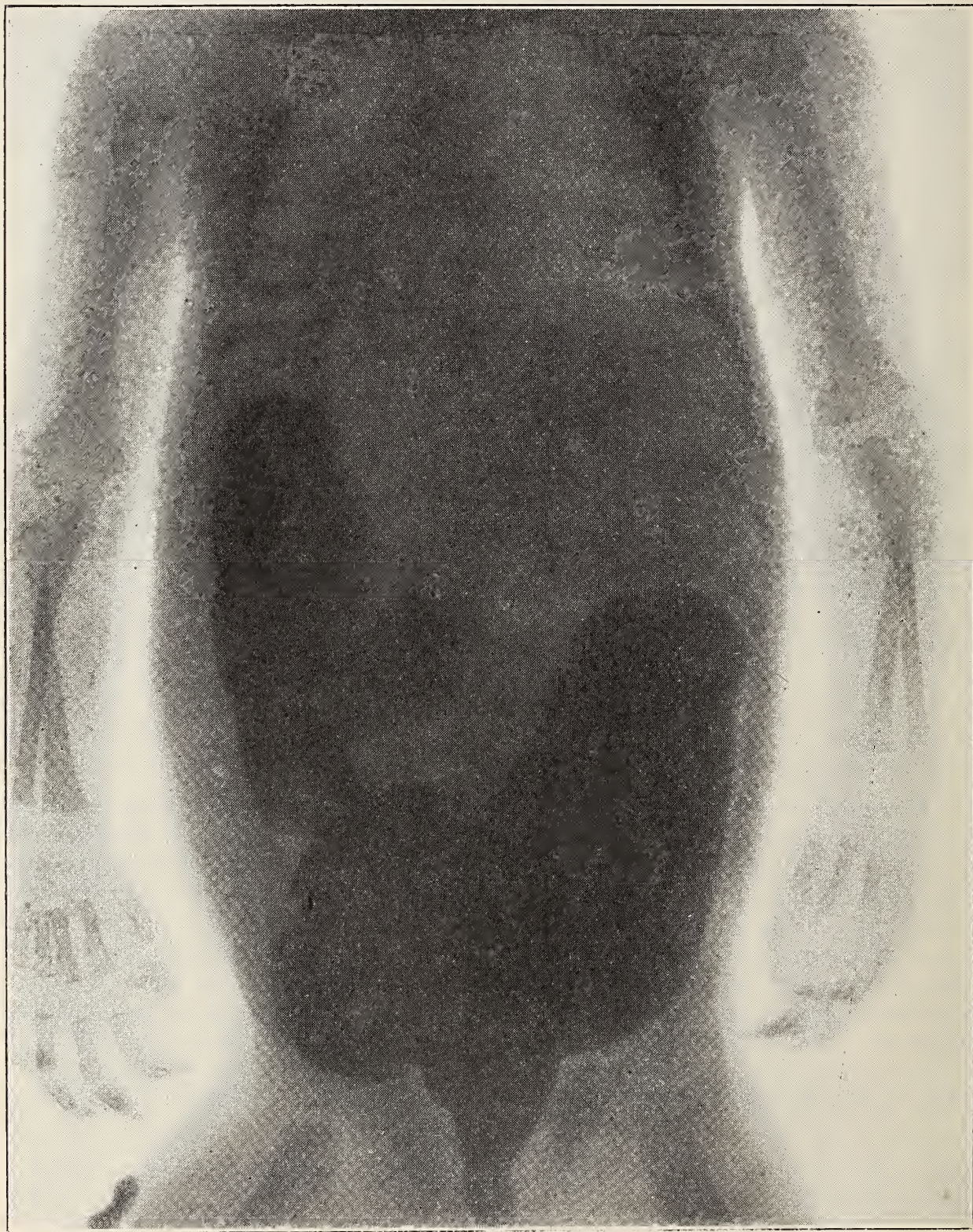


Fig. 1.—The lantern-slide of the first skiagram I show you to-night is from one of those that I presented to this society eleven years ago and published in *Jour. A. M. A.*, December, 1900.

To-night I show the same skiagrams and lantern slides of the two radiograms exhibited on that occasion. True, they contain little or no detail, but to the best of my knowledge are the first radiograms ever taken and made public of the large intestine. Now eleven years after that announcement, this work is credited to Rieber, who made his first skiagram in 1904. Since the time referred to I

have taught that at no recent day, the x -ray would doubtless become quite as valuable in diagnosing affections of the large bowel as it was in fractures, etc. It is just such criticisms made by just such individuals as those referred to which retard medical progress and deprive original observers of their due credits.

Dr. E. G. Beck, in his paper before the Chicago Surgical Society in January last, stated: "No one can find any fault with the excellent work done by radiographers at the present time." I beg to differ from the doctor on this point. Since the reading of my former paper, I have tried repeatedly to have x -ray pictures made of the large intestine for diagnostic and clinical purposes, and have only recently succeeded by the technic to be described presently.



Figure 2.

Until recently the means for diagnosis have been limited to inspection of the abdomen, palpation, percussion and transillumination. All these are uncertain or limited in their extent. In order to give rise to a shadow shutting off the x -rays some substance must be introduced into the bowel. Bismuth per os is very slow in its action, taking over a day to penetrate to the sigmoid. By the method I advocate this is instantaneous, so to speak.

As regards technic: After cleaning out the bowels, the patient is placed in the knee-shoulder position. From 25 to 50 oz. of a 6 to 10 per cent. suspension of bismuth subcarbonate is then injected, using an ordinary irrigator with a short

rectal tip. After the suspension is injected, the patient lies on the right side for a few moments so part of the menstruum may pass into the cecum. He is then placed in either the dorsal or ventral decubitus on the radiographic table, and the radiogram taken.

CASE 6.—This is a picture of a doctor who is in the audience. Observe the dilated condition of the cecum and ascending colon in comparison with the rest of the bowel, and the displacement of the transverse colon. He is constipated and a neurasthenic.

CASE 8.—Male, aged 54 years. You will observe that on the right side the transverse colon drops below the crest of the ilium.

CASE 9.—Man, aged 32 years. Bowels regular until a few weeks ago when he began to be constipated. He has that "tired feeling" and is easily fatigued. Medicines give relief for the time being only. You will notice a slight displacement of the transverse colon, likewise of the rectum. In the cecum and transverse colon are two places which seem to indicate beginning dilatation.



Figure 3.

CASE 10. Fig. 2.—Maiden lady, aged 22 years. She is anemic. Has dysmenorrhea, leukorrhea, is constipated and has lost flesh. The transverse colon is far below the brim of the pelvis, resting, doubtless, on the uterus and its annexa.

CASE 12.—Physician, member of this Society, obstinately constipated. Bowels never felt after movement as though they were empty unless he used an injection. Observe the enlargement of the cecum, also the ampulla. He had hemorrhoids and large obstructive rectal valves. Hemorrhoidectomy and proctoalvotomy has practically cured his condition.

CASE 13. Fig. 3.—Illustrates a valvotomy clip on a rectal valve, showing position of clip in proctoalvotomy.

CASE 15. Fig. 4.—This is a picture of a maiden lady, aged 42 years. Note the dilated cecum and ascending colon, also the large rectal valve. She is constipated and a typical neurasthenic.

CASE 18.—Woman, aged 24 years, single. Constipated, anemic, languid. Had been operated on three years ago for appendicitis; one year later for hemorrhoids and laparotomy eighteen months ago. Following this operation she had constant pain in the splenic region.

The skiagram shows a kink at the hepatic flexure, ptosis of colon and a sagging of the rectum. Upon opening the abdomen I found a broad band binding the transverse colon to the cecum and pulling the splenic flexure in the same direction.

DISCUSSION

Dr. A. C. Croftan: I am somewhat at a loss to understand why I should be honored with a request to open the discussion of a purely technical subject, especially as I know practically nothing in regard to this method of examination from personal experience. From the standpoint of the internist every means must



Figure 4.

be welcomed that enables us to make more accurate diagnoses and, with more exactitude and with better control, to apply medical treatment or surgical interference. Much as I admire the industry expended in the work presented by Dr. Pennington, and as much as I appreciate the idea underlying his efforts, still I remain far from convinced by the demonstration of this evening that we have here a method that is so much more reliable than the usual methods to warrant the expenditure of time and the expense inherent in this technique; for certainly one would never remain content with *one* picture in a doubtful case, nor would one wish to undertake such a study without careful pedantic preparation of the patient.

The pronounced degrees of general visceroptosis are, I truly believe, diagnosed without much difficulty by the usual "old fashioned" methods that I need not enumerate. Slight deviations from the normal are not so easily recognized by

these common methods nor are they in my judgment positively determinable by Dr. Pennington's. At least the pictures appear ambiguous and I would certainly hesitate to rely upon one or even a series of them unless their findings could be corroborated by other clinical methods. In fact, I believe, one could be more readily led astray by a bismuth picture diagnosis than by other methods, on account of the many possible sources of misinterpretation mentioned by Dr. Pennington and shown in his pictures.

Assuming, however, that with a perfection of this technique slight deviations from the normal in the position of the colon should become determinable, then I would dread the result, from the standpoint at least of our patients. For I anticipate that many a neurasthenic would find his or her way to the operating table on the assumption that here at last had been found the explanation of the protean array of symptoms that they are afflicted with.

It is, of course, true that occasionally an individual afflicted with visceroptosis is relieved by the surgical or postural or mechanical correction (?) of the deformity, but in the majority of the cases they are not so benefited. When we consider, finally, that numerous cases of general visceral ptosis maintain an altogether comfortable existence, without signs of "autointoxication," "neurasthenia," "vasomotor instability" and what not, and that many individuals so afflicted improve and get well under appropriate general treatment directed exclusively towards an improvement of the underlying neurosis and psychosis, we must become convinced that the visceroptosis is usually an accompanying feature, often a result and very rarely indeed a cause of the general syndrome delineated. Hence I would view with alarm, rather than otherwise, the x-ray discovery of slight abnormalities in the architecture and the position of the colon. From the standpoint of the internist and the conservative surgeon, therefore, this work, while maintaining a high degree of academic interest, offers, so far, relatively little of practical importance; it incorporates, moreover, certain elements of danger both to the patient's purse and person, especially if interpreted by those among our surgical colleagues in whom conservatism has not yet become developed to its normal level.

Dr. W. B. Metcalf: The matter just presented is of great interest to me, first, because it is of practical value; second, because of the reference to me; and I want to thank you, Dr. Pennington, for your fairness to me in this matter. In May, 1899, I read a paper before this society having for its title "Original X-Ray Work and Its Value to Stomach Diagnosis." In that paper I said, "My claim is that the work is original, that the value of the method of examination is far in advance of any we have heretofore used. By it the stomach can be definitely outlined, giving its size, shape and position. It is also possible to examine the transverse colon, fistulous tracts, uterus or bladder. This is accomplished by filling the stomach, cavities, or tracts with what I have termed my bismuth emulsion.

In looking over medical literature I find that Reider of Munich claims to be the first to have used this method of stomach examination; this was in 1904; later it was rediscovered in Berlin and in Vienna. Barclay of London, Max Einhorn of New York and lastly Dr. Emil G. Beck of Chicago rediscovered it. In January, 1908, nearly ten years later, he read a paper before this society having for its title "A New Method of Diagnosis and Treatment of Fistulous Tracts and Tuberculous Sinuses." At that time he said, "I will present to you a new method of diagnosis, which will enable the surgeon to see every portion of the sinus or fistula. The new method of diagnosis of the above affection consists in filling the fistula or abscess cavity with a bismuth vaselin paste. This method of diagnosis was developed by us since March, 1906."

Regular Meeting, Oct. 18, 1911

This was a joint meeting with the North Side Branch and was held at the Northwestern University building, with the president, Dr. Joseph M. Patton, presiding.

Dr. Thos. J. Doederlein read a paper on "Pregnant Fibroid." Dr. Jacob Frank read a paper on "Subcutaneous Extirpation of Cervical Glands." Dr. C.

H. Parkes read a paper on "Supravaginal Hysterectomy with Preservation of Menstrual Function."

DISCUSSION ON THE PAPER OF DR. DOEDERLEIN

Dr. M. Herzog: Dr. Doederlein has discussed the various types of ectopic gestation, so I can dismiss this subject with very few words. Ectopic gestation is not at all an uncommon pathological occurrence; on the contrary it is quite frequent. We have three types of ectopic gestation; first, the most common type, tubal pregnancy, which may also secondarily lead to abdominal pregnancy. Aside from secondary we also have primary abdominal pregnancy; and, third, ovarian pregnancy; the latter is the most rare form of ectopic gestation. It appears that the case which Dr. Doederlein and myself are reporting here to-night presents another type of ectopic gestation—pregnancy in a tumor, namely, in an adeno-myoma. What is an adeno-myoma? These tumors were first described in 1893 by Von Recklinghausen. They are tumors composed of proliferating neoplastic elements, both of the type of unstriated muscle fibres and of epithelial cells, which later are arranged more or less in the form of glands. Hence an adeno-myoma is a mixed tumor. R. Meyer, who discusses the subject of adeno-myoma in Veit's Handbook of Gynecology, distinguishes five different histologic types. In the first, we have the adenomatous portion derived from the uterine mucosa. We may have had glandular elements included in the neoplasm from the start, or the glands may be derived from inflammatory hypertrophies of the endometrium, i. e., some of the hypertrophic mucosa may have become included in the growing myoma. In the second type of adeno-myoma the epithelial structures are derived from the serosa lining the peritoneal coat of the tumor. In the third type, the epithelial structures are derived from remnants of the Müllerian duct. In the fourth type they are derived from embryonic inclusions of the Wolffian duct, and in the fifth type from remnants of the Wolffian body. This classification is one preferably of academic interest, because it is generally very difficult to form an opinion as to from which structure the epithelial glands originated, and the opinions differ so much that the original views of Recklinghausen have had to be considerably modified. The subject has become more difficult because it appears that some of the cases reported as adeno-myoma were no true tumors, but inflammatory hypertrophies of uterine mucosa which only secondarily lead to tumor formation. As to the case presented here to-night, you see here the mass removed, and you notice a constriction which divides the tumor proper from the uterus. On top you see the left ovary and the left tube, and remnants of the broad ligament, and here on the right side are shreds of tissue which belonged originally to the right ovary and tube. These parts have been removed before the specimen was turned over to me. When we open the tumor we see a cavity which is not empty, but filled with a mass which looks like a degenerated placenta, and indeed is a placenta. Microscopic examination shows degenerated blood corpuscles, hematoïdin, and villi in various stages of degeneration, some, however, quite well preserved. In the latter we can see both epithelial layers, but in most of the well preserved villi the Langhans layer has disappeared. I therefore consider the placenta to be between 4 and 5 months old. Microscopic examination of some portions of the tumor, as you can see under the microscopes exhibited, shows a tissue with glandular adenomatous structures. There is something in the picture which I have never seen in a glandular hypertrophy—a decidedly embryonic connective tissue surrounding the glands and around this embryonic tissue we see bundles of hypertrophic muscle fibers. The muscularis of the uterus is also hypertrophic; the fibers are large, and while I have not made any measurements it appears to me that the hypertrophy in the uterine muscle fibers is not as marked as of the muscle fibers in the tumor. I feel confident from the examination, and I don't see how it can well be contested, that we have here a pregnancy in an adeno-myoma. Whether the tumor was formed from the start from embryonic inclusions or whether it arose as the result of primary inflammatory changes in the endometrium, I cannot now say.

It appears that the adeno-myoma must have had some connection with the uterus, which connection was probably very small, perhaps some gland ducts only; that an ovum, after having been fertilized, got into the adeno-myoma, there developed, and to a certain extent also formed a decidua. Only in the very early stages of ectopic gestation, particularly in tubal pregnancy, do we find a very well developed decidua. However, it is soon damaged, and in our case we miss the picture of a well preserved decidua. However, some of the cells nearest the placenta proper look somewhat like decidual cells. The development of the ovum stimulated the adenomatous parts of the tumor to form something like a decidua, and the muscle fibers became hypertrophic. As generally in ectopic gestation at a certain stage of development the cavity could no longer properly accommodate the growing embryo, pregnancy was interrupted and the embryo died, and it was probably at that time that connection between the tumor placental cavity and the uterine cavity became enlarged by fragments of the embryo as they were expelled first into the uterine cavity and then into the outside world.

Dr. Ries: This specimen, if it proves to be what it has been announced to be, is of the greatest importance because it would represent a new and hitherto unknown type of extra-uterine pregnancy. It is therefore important that it should be examined and discussed in every possible way to make sure that we really have to deal with a new type, and it becomes necessary to exclude all those types which have been known before, and which by their very deceptive development might simulate a new condition, when in reality we have to deal with an old one. The distortions of the uterus produced by interstitial pregnancy are sometimes extraordinary. Without doubt this is not an interstitial pregnancy because both tubal horns are distinctly located above the tumor. The pregnancies in rudimentary horns sometimes distort the uterus in a remarkable way. A pregnancy in a rudimentary horn can be excluded absolutely here because of the way in which the tubes are attached to this fundus. If we had to deal with a rudimentary horn one tube would be attached to the outside of it whereas it is perfectly distinct that here both tubes are attached to the single uterus. The development of pregnancy in the broad ligament after rupture of the tube might simulate a condition of a tumor located underneath the tube. That is not the case here. I have seen sections of this case which showed no scar tissue where the tube was inserted in the broad ligament. There is no separation of continuity in the circumference of the tube. Between the tube and the tumor with the placenta there is distinct muscular tissue of such thickness that it cannot be assumed to belong to a ruptured tube. We therefore have to come to the conclusion that this specimen does not fit into the diagrams we have made of extra-uterine pregnancy. What then is it? Adeno-myomas have frequently been described which show direct connection between the cavity of the uterus and the cavities of the glandular spaces contained in the adeno-myoma, and this connection if followed up can in certain cases be proven to extend not only a short distance, but many inches. Sometimes large accumulations of blood form in the glandular spaces. Then we have to deal with cyst-adeno-myomas in which the connection between the uterine cavity and the cavity of the cyst adenoma can no longer be demonstrated. Now let us suppose that such cyst adenomatous spaces filled with blood rendered the wall of the uterus so thin that ultimately the wall between the uterine and the tumor cavities gave way, then we would have a hemorrhage such as this woman reported previous to this impregnation, and a communication might be established between the uterine cavity and the cyst adenoma. But I have never known of such a case. At any rate this is one way we can connect the clinical history with the actual findings in this case. If such a connection became established and the ovum formed in the space originally hollowed out by the blood it would be very easy to understand that that original communication might either close up or might escape discovery during the subsequent examination. But there are other remnants of embryonic organs which have to be considered, one of which Dr. Herzog mentioned. He spoke of the Wolffian duct. There was a case operated on by Koeberlé and examined microscopically and described by Recklinghausen in the work Dr. Herzog mentions in

which the remnant of the Wolffian duct running in the right uterine wall formed more or less of a cavity in this wall. Remnants of this duct are found frequently. I saw several located in the cervix. At any rate if such a duct is formed and the contents of this duct accumulates and an opening becomes established into the uterine cavity, you can get the development of the pregnancy in this duct. There is perhaps a possibility of an ovum developing in the remnant of the Wolffian duct, and of the glandular elements which are liable to originate in the Wolffian duct, being those found in the superficial layers where Dr. Herzog found them, while he did not find any adenomatous structures in the most external part of the tumor. If this possibility is to be considered at all, then it would be necessary at least to prove some remnant of Gärtner's duct in this part of the uterine wall above or below the communication between uterine cavity and tumor cavity, and that might be possible. It might be worth while to look after that question. Otherwise I cannot say anything about this case, for it is one of the most remarkable cases I have seen. I only wish to add one word with regard to the success of the operation. When you have to do with a case which has been in the hands of a midwife for some length of time, and if the case is then operated on successfully, without getting peritonitis, I think that is a good piece of surgery, and the doctor should be congratulated on his success.

DISCUSSION ON THE PAPER OF DR. C. H. PARKES

Dr. Carl Wagner: Every strife for conservatism in surgery must be duly appreciated, and it is for this reason that I welcome the paper you have just listened to. This paper deals with a subject which must of necessity arouse the great interest of those who are largely engaged in pelvic surgery, because every one of them has repeatedly met the sad, discouraged patients suffering mentally and bodily, on whom he has done a technically successful operation for the removal of an infected uterus or benign tumors of the same, but who do not menstruate and this perhaps at a still young age.

At the meeting of the American Gynecological Society, Atlantic City, May 23-25, 1911, Dr. Polak says in the paper "The End Results When Hysterectomy Has Been Done and an Ovary Left," that there are clinically two classes of pelvic surgery to which conservation may be applied, pelvic inflammatory lesions in the subacute or chronic stage, after Nature and time have protected the patient by peritoneal adhesions and their absorption has taken place, and fibromyomata of the uterus. Now what applies to the ovary in many cases applies to the lower segment of the uterus in the sense brought out in Dr. Parkes' paper. However, if one peruses Winter's treatises on his very extensive studies of the different statistics on the subject of conservative and supracervical myomectomies, one might be easily inclined to believe that there was no place for conservatism in hysterectomies for myomatas. But during the great controversy about conservatism in pelvic surgery, some years ago, nobody less than Zwiefel insisted upon the postulatam that not only one ovary should be retained in hysterectomy but if any way possible a part of the corpus uteri with its mucous membrane should be left, and this first for the sake of menstruation and secondly in order to prevent the atrophy of the ovary by preservation of the function of the uterus. For the purpose of obtaining a functioning stump he lays great stress upon omitting the ligation of the trunk of the uterine artery and advocates separate ligation of the arteries in several portions. He worked out a special plan for this operation and terms it "myomectomy with resection of uterus, sewing up of the stump of the uterus followed up by peritonization." Ols-housan, the great past master of gynecology goes, in consequence of the above consideration, still further, inasmuch as he resumed and revived the old enucleation method in a large number of cases.

In regard to hysterectomy for the infected uteri the question gains a somewhat different aspect. Such cases should be treated for a long time, no matter whether supracervical or conservative hysterectomy comes in question, before the operation is performed in order to reduce the amount of inflammation to a minimum.

The surgeon must also be clear in his mind as to the fact that these cases are in need of after-treatment for the stump, which may still retain some infection. In the operation as described by the essayist we deal also with a stump only of simply larger size than those stumps of supracervical amputation but also less the large infected areas of the greater part of the fundus and the permanent source of reinfection from pyosalpinx. This stump is very amenable to successful after-treatment, which latter should, however, be pointed out to the patient beforehand as very necessary to accomplish a full cure. I know out of my own experience in a number of cases, that more gratifying results both to the patient as well as to the doctor may be obtained in this way.

Dr. A. J. Ochsner: I thought the points mentioned by Dr. Parkes were generally accepted and in use; at least in my own work I have followed the principles laid down by Dr. Parkes for many years, and the rule has been that in patients less than 45 years of age the menstruation continues with regularity after this operation. In patients over 45, occasionally, in fact quite frequently, the menopause occurs after any severe operation, and I think when it comes on after hysterectomy, the cessation of menstruation or coming on of the menopause is really the result of the operation as an operation, and not particularly because the operation happens to be upon the uterus. The point Dr. Parkes made concerning infected uterus I believe is very well taken. For some time the total hysterectomy was advocated so strongly by many men that I suppose there must be many followers of the plan of removing the entire uterus when infected simply from the standpoint that reinfection is impossible when the entire uterus is gone, and the worst that can happen is a vaginitis, but that operation for infected uteri is of course performed very generally on young patients, and of that class of patients I have seen many after operation who were in a very deplorable condition from nervousness resulting from the psychological effect of absence of menstruation, so that in that class of patients I would like to emphasize the points made by Dr. Parkes.

Regular Meeting, Oct. 25, 1911

The president, Dr. J. M. Patton, presided. Dr. C. W. Suckling of Birmingham, England, by invitation, read a paper on "Nephroptosis."* Dr. Wm. Billington of Birmingham, by invitation, read a paper on "Personal Experiences of Nephroptosis."*

SOUTH SIDE BRANCH OF THE CHICAGO MEDICAL SOCIETY

The first regular meeting held at Lincoln Centre, October 24, was called to order at 8:25 p. m., by Dr. Eisendrath, President. The program was as follows:

SYMPOSIUM ON PULMONARY TUBERCULOSIS

1. "When is a Case of Tuberculosis Curable? Time Required for Cure and Subsequent Precautions to be Observed."—Theodore B. Sachs.
2. "Present Status of Danger from Tuberculous Infection in Milk."—Paul G. Heinemann.
3. "Home and Sanitarium Treatment of Tuberculosis" (by invitation).—H. R. M. Landis, Philadelphia, Director of the Phipps Sanatorium for Tuberculosis.
4. "Value of Tuberculin in Diagnosis and Treatment."—John Ritter.

The program was discussed by the following: Drs. J. W. Pettit, Joseph L. Miller, C. G. Grulee, A. H. Beifeld, P. G. Heinemann, H. W. Cheney, A. Gehrman, G. W. Webster, J. F. Churchill, Edward F. Wells, K. K. Koessler, M. L. Goodkind, G. E. Baxter, M. M. Portis, J. M. Dodson, F. C. Test and Julius Hess. E. F. Wells gave an interesting report of a case of cystitis.

One hundred and ten were present.

WILLIAM D. NAPHEYS, Secretary.

* These two papers, with discussion, will appear in a future issue.

EDGAR COUNTY

The Edgar County Medical Society met in regular session in the Carnegie Library, Paris, Ill., Oct. 11, at 2:15 p. m., Dr. Williams presiding. Members present: Drs. Hazen, Evinger, Layton, Jones, Hunt, Ten Broeck, E. O. Laughlin, Clinton, Baum and Williams. Visitor, Dr. C. Hufaker of Logan. Minutes of last meeting read and approved.

Communication from the American Medical Association regarding longer terms for medical students and service of one year in hospitals before admittance to practice, read, and on motion of Baum and Jones, laid over for future consideration. Communication from State Medical Society regarding proposed change in Constitution of State Society read and referred to the delegate to State Society for investigation. The board of censors reported favorably upon the application of Dr. Hufaker for membership, and upon vote he was duly elected.

The program for the day was a "Symposium on Constipation," with papers as follows: "Etiology," George H. Hunt; "Symptoms," C. L. Kerrick; "Dietetic Treatment," C. R. Layton; "Medical Treatment," J. C. Epperson; "Surgical Treatment," R. Hazen.

In the absence of Drs. Kerrick and Epperson, their subjects were assigned to Drs. Evinger and Jones.

Dr. Evinger spoke briefly upon the symptoms of chronic constipation, laying special stress upon the peculiar pallor and sallowness which marked these cases; to the malaise and exhaustion present in most patients, which was sometimes mistaken for malaria or the exhaustion attendant upon commencing tuberculosis. He concluded his remarks by detailing a few remarkable cases of chronic constipation which he had met in practice in which materials ingested had been retained in the organism for many months.

Dr. Jones spoke upon the medical treatment of this condition. In addition to dietetic measures he favored the employment of judicious exercise and restriction of eating. He did not favor active purgation, or the frequent employment of calomel. Mild laxatives, and continuous treatment were in the doctor's opinion more efficacious than drastic measures. The drugs he employed most frequently were cascara, podophyllin and nux vomica. He also commended the formula of the Hinkle pill. He had met even more prolonged and startling cases of retained excreta than had Dr. Evinger, some of which cases he detailed to the society.

Dr. Hazen spoke upon the surgical treatment of chronic constipation, detailing many conditions which called for surgical interference, such as adhesions, tumors, constrictions, distortions, ptosis, displacements. He also rapidly recalled the symptoms which indicated an operative interference, and dwelt somewhat upon the pathology of other organs than the intestine, which must be considered in connection with this condition. He called attention to anatomical peculiarities of the sigmoid and the cecum, which favored the production of chronic constipation, and showed how from peculiarities of strictures and development of the cecum the cases of long-retained excreta as related by Drs. Evinger and Jones could be explained. Dr. Hazen concluded his remarks by describing some of the surgical methods employed for the relief of the condition under consideration, and gave some statistics as to the results.

A full discussion of the papers and general discussion of the symposium followed.

Society adjourned to meet upon the last Wednesday of January, 1912.

GEORGE H. HUNT, Secretary.

ON THE ETIOLOGY OF CONSTIPATION

GEO. H. HUNT, M.D.
PARIS, ILL.

The condition known as constipation is so constantly met in practice, and the means ordinarily adopted for its relief are so well known, that the physician makes his diagnosis and prescribes his remedies almost as a matter of routine.

It is only when a case of more than ordinary obstinacy or one having peculiarly complicated symptoms presents itself that the average physician gives much heed to the etiology of the condition, yet the condition is so far-reaching and baneful in its effects upon the organism, and its cure depends so absolutely upon the removal of the cause, that it will not be amiss to freshen our knowledge of the subject by a rapid review of the recent investigations of the physiologists, for in this as in almost every field of physiological investigation modern methods of research and particularly the use of the Roentgen ray have changed many of the accepted theories of ten years ago.

The method employed by Nature for expelling the contents of the stomach and the small and large intestines is that of peristalsis. And in brief the etiology of constipation may be said to be anything which interferes with or retards peristalsis.

Peristalsis consists of the contraction of two sets of muscular fibers situated in the middle coat of the intestine; this contraction produces simultaneously three results, a constriction of the intestine above the mass to be moved, a dilatation of the intestine before the mass and a swinging or twisting of the intestine between the contracted and dilated areas.

The law of muscular contraction is, that muscular fibers contract in response to the application of an irritant. Since 1906 the view in regard to the nervous supply of the intestine is that nervous plexi are found in the longitudinal and circular fibers of the muscular coat, and also in the submucous coat, and that these receive motor fibers from the vagi and the sympathetic chain.

Late investigators state that the evidence is strong that some movements of the intestine are purely muscular in origin, hence the intestine is not wholly dependent upon its connection with the central nervous system for its movements, nor is it wholly dependent upon its sympathetic connections for contractive stimulation. Either system can act alone, or both can act together.

Now, checked peristalsis being admittedly the prime factor in constipation, consider for a moment what this nervous connection means. It means that peristalsis may be inhibited by mechanical means, by chemical means, by trauma, by reflexes and by mental emotion, thus taking in almost all the methods by which the organism is influenced. These newer discoveries regarding the nerve supply of the intestine go far toward explaining the reason of the obstinate constipation attending insanity, ovarian diseases and occupational maladies, and it is altogether probable that the next few years will see a total change in the treatment for constipation occurring in the course of the above diseases.

Habit stands high in the etiology of constipation. The sedentary life of many business men, a life in which they ride to their office, and after sitting all day, ride home at night, is one of the most common causes of this condition. Exercise is very necessary to keep the secretions of the intestines and liver in an active state, and if exercise is withdrawn, impairment of the secretory functions of these organs will inevitably ensue.

Another etiologic factor in the production of constipation is sheer laziness, a large per cent. of business and professional men and women, and also of school children, habitually resist the demand of the bowel for evacuation, as long as they possibly can. The result is a lack of tonicity, over distention, and, in a short time, a semi-paralytic condition of the bowel, that may require years to overcome. Allied to this neglect is the false modesty of women, who as clerks, teachers, stenographers, etc., prefer to suffer rather than go to a closet in a somewhat public place.

Incidentally it might be mentioned that it is in this class of patients that the osteopath meets his greatest successes and wins most applause. After the drugs of the general practitioners can no longer spur up the semiparalyzed bowel and the whole organism is poisoned by retained excretions, and the patient has dragged around for weeks with indigestion, headache, nausea and a jaundiced skin, she falls into the hand of an osteopath who lays her flat and kneads liver, and duodenum, and colon, as a housewife kneads dough; the result sometimes is startling, the bowels move, the auto-intoxication disappears and with it the nausea, headache and sallow skin. The patient feels well; more than that, she

looks well, and conversions to the new school follow promptly in perhaps half a dozen families. Of course, the kneader merely made up for the patient's laziness. Of course, horseback riding, or gymnastics, or two days over a wash tub, or two hours with a wood saw, would have been equally efficacious. Of course, the family doctor could have manipulated and produced the same results, but we don't do these things, and as a result we lose patients and money.

Diet is a most important etiologic factor in constipation. Its effects are protean. A too concentrated food will cause constipation by not furnishing sufficient residual matter to excite peristalsis. On the other hand, a too coarse diet will cause constipation by producing residual matter in excess and clogging peristalsis. A regular diet in which cereals, green vegetables, and vegetable acid salts are balanced, seems to be mandatory if constipation from diet is to be avoided.

Meats, milk, eggs, coffee, tea, strawberries, raspberries and blackberries, if used even slightly in excess of the dietetic balance, become marked factors in the etiology of dietetic constipation.

Also individual susceptibility plays an important part in dietetic constipation; a food quite harmless to the majority of mankind, may in a certain individual produce an irritation of organs or nerve centers which may reflexly inhibit peristalsis. In such cases individual experience is our only guide to the producing factor.

Hepatic torpor from any of the vast number of affections of the liver, is prominent in the etiology of constipation. In addition to its antiseptic, osmotic, and digestive qualities, the bile is, of all the secretions of the alimentary tract, the most important promoter of peristalsis by stimulation of the nerve terminals, and any hepatic condition which interferes with the manufacture or expulsion of bile is certain to become a factor in a resulting decrease of peristalsis. In this connection it can be readily seen how an organic disease of the heart, or great vessels, may, by interference with the portal circulation, become a remote cause of the disease under consideration.

Occupation takes a place in the etiology, principally from the improper posture in which it often places the body. Bookkeepers, stenographers, typewriters, and many others pass a large number of hours in positions which cramp the abdominal muscles and compress the abdominal viscera, producing stasis of the blood current and inhibiting peristalsis. So strong a factor is this that frequently a change of employment will terminate the constipation and with it many obscure symptoms which were the result of retarded circulation. Other occupations which involve the inhalation of chemicals, such as lead, lime, spices, etc., may also be the cause of inactivity of the bowels.

Tumors which compress the lumen of the bowel, the partial paralysis of the aged, inherited tendencies, obesity and rigid sphincters need only to be mentioned to be recognized as holding a place in the etiology of this complex condition known as constipation.

Since the publication in 1910 by Dr. Longyear of his work on Nephro-coloptosis the writer has been more and more impressed with the tremendous part played in constipation by a displaced colon. The work was designed to give Dr. Longyear's views of the cause of floating kidney, and his method of operating for the correction of the condition. But the book is a mine of information to the diagnostician on many obscure abdominal symptoms.

The condition of displaced colon is far more frequently present than anyone would suppose, and is the source of many a case of years of invalidism. In fact, since studying this work, when the writer meets a case of constipation or alternating constipation and diarrhea, or alternating constipation and dyspepsia which competent physicians have treated for a long period with but temporary relief, he suspects a displaced colon.

Displacement of the colon or colo-ptosis, is most frequently caused by a floating kidney dragging the colon down from its attachments at the hepatic flexure, though if the membranous or ligamentous attachments of the colon are weak, or very long, the colon is displaced without involvement of the kidney. It may occur on the right or left side, or on both sides at the same time. In any great

degree of displacement, the pathology is profound. The ascending and transverse colon drop in many instances into the pelvis, and at the hepatic and splenic flexures the gut, instead of presenting rounding curves, becomes sharply angulated. Angulation also occurs at two points in the duodenum, and at two points in the ileum. The transverse colon instead of being entirely above the umbilicus is entirely below it, and most of the great vessels are compressed, and most of the viscera dragged upon. The contents of the intestine must be forced past six acute angles, and also must be forced against gravity, throughout not only the ascending, but also the transverse colon, and constipation of the most obstinate character is inevitable. A description of the condition in words is very difficult. Certain it is if it is once appreciated, or better still, if once seen in the operating room it will never again be forgotten and it will very seldom be neglected.

The above remarks have not exhausted the etiology of constipation, but the paper is already too long for a symposium, and enough has been said to indicate the protean character of this condition; a condition which contributes to the discomfort, inefficiency and misery of the human race, as much as any disease can which is not of an absolutely fatal nature.

CONSTIPATION—DIETETIC TREATMENT

C. R. LAYTON, M.D.

REDMON, ILL.

The paper which I have to present to-day is limited to the dietetic treatment of chronic constipation. First, a too exclusively nitrogenous diet, that is a diet too largely composed of easily digested animal food, by leaving but little waste after its digestion may lead to constipation, or a too exciting diet and the repeated contact of too stimulating residue, the excitability of the intestinal nerves may be exhausted and constipation thus induced.

In some instances too dry a diet is taken and not enough water is consumed to keep the contents of the intestines in a fluid, semi-fluid or soft condition.

The freer the supply of water to the blood the more fluid the intestinal secretions are likely to be, whereas if the supply of fluid to the blood be limited, less fluid is likely to be secreted from the intestinal glands and thereby the mucous membrane of the intestinal canal will become dryer. It is no doubt for this reason that free draughts of cold water taken at bed-time and early in the morning will often give relief in habitual constipation.

Persons who avoid vegetables or fruit must be induced to add some of each to their diet. Green vegetables and ripe or stewed fruit, such as apples, pears, prunes, apricots, figs, etc., are very essential.

Oatmeal and most any of the other cereals are good. Eggs, milk, and most of the farinaceous foods tend to aggravate the condition as they leave but little residue from their digestion. Honey added to bread and the other farinaceous foods favors peristaltic action. Where these ordinary measures are not sufficient, we add certain dietary adjuncts with the view of increasing the residue in the large intestine and thus stimulating peristalsis.

One author recommends the use of agar-agar in shredded or finely divided condition; it may be given mixed with certain soft foods, such as apple sauce or mashed potatoes. In the stomach and intestine the agar-agar absorbs water, swells up and increases the bulk of feces.

Paraffin has been recommended in solid or liquid form. Some authors have advocated the use of saw-dust worked into wheat bread dough in proportion of one ounce to the pound.

Personally I have found the use of bran to be cheap and efficacious in the treatment of constipation. It is made into palatable biscuits according to the following recipe: 2 eggs, 2 cups of milk, 2 cups of sweet bran, 1 cup of whole wheat flour, 2 teaspoonfuls of molasses, 2 teaspoonfuls of baking powder, 1 teaspoonful of salt. Bake above in muffin pan. One to four of these biscuits a day will often cure a most obstinate case of simple constipation and will frequently

help to establish a regular habit that remains permanently with the patient, after the bran treatment is discontinued. This treatment is contra-indicated in constipation accompanying atony or dilatation of the stomach, as the bran may remain in the stomach and cause gastric irritation.

EFFINGHAM COUNTY

The regular monthly meeting of the Effingham County Medical Society was held October 10, in the M. A. F. O. Hall, Effingham, Ill. The meeting was called to order by Dr. J. H. Walker. Members present: Drs. Walker, Dunn, Kushner, Haumesser, Burkhardt, Taphorn, Cromwell and Buckmaster. Visiting physicians: Drs. W. E. Franks and M. Harris, Newton; L. H. Johnson, Casey; L. C. Bassett and J. B. Holson, Farina; P. D. Simmons, Teutopolis; C. E. Crawford, Rockford; J. N. Thrush, Danvers; L. L. Morey, Vandalia, and C. C. Holman, Effingham.

Minutes of previous meeting read and approved. Board of Censors reported favorably on application of C. C. Holman, and he was elected a member.

Application of Dr. C. D. Simmons of Teutopolis was referred to Board of Censors to report at next meeting.

Dr. C. E. Crawford of Rockford, Ill., inspector of the State Board of Health, entertained the society with a very able and interesting paper entitled "Milk from a Sanitary Point of View." It proved to be a rare treat for all. Another very instructive paper was read by Dr. Kushner of Deitrich, on "Convulsions in Infancy and Childhood and their Treatment."

A motion made by Dr. Taphorn, seconded by Dr. Haumesser, that this society extend a vote of thanks to Dr. Crawford for the able and instructive manner in which he entertained our society. Carried.

After a short social session and smoker, the members and visitors and their wives were invited to the First Presbyterian Church to partake of an elegant banquet served by the Presbyterian ladies, to which about fifty responded.

H. TAPHORN, Secretary.

FAYETTE COUNTY

The Fayette County Medical Society met in the old State Capitol Building in Vandalia, Ill., Tuesday, Sept. 19, 1911, with A. T. L. Williams in the chair as president, pro tem. A goodly number were present, consisting of the following: Drs. Shelton, Haynes, Turney, Stanbury, Pribble, Whitefort, Eldridge, Dieckmann, Morey, Berry, Rose, Smith, Williams and McReynolds, also Dr. Brooks of Beecher City. The election of officers resulted as follows: President, W. B. Shelton; vice-president, Moses Haynes; secretary, C. H. Eldridge, and treasurer, E. B. Pribble. Upon motion the secretary was made delegate to the next state convention with Dr. Rose as alternate. A program committee was then appointed by the chair, consisting of Drs. Eldridge, Pribble and Whitefort.

Dr. W. E. Rose read a paper on the "Open Treatment of Fractures." The paper was thoroughly scientific, and was discussed by Drs. Lillie and Wiggins of East St. Louis. Dr. Rose's paper was so thorough and full of so many things of interest that upon motion a copy was sent to Dr. Lilly's Journal, *The General Practitioner*, for publication by unanimous voice of all present.

Dr. J. Q. Roane, district councilor for this part of the state, was present and read a paper full of many interesting and sensible reasons why county organization is needed and the good derived therefrom by each physician. Dr. Roane's paper was sanctioned very highly and Drs. Lilly and Wiggins added some instructive comment.

Dr. Lilly then read a paper on "The General Practitioner" that was full of good things. He had wit and humor in each line mixed with stern facts in such a manner that the distance between a sensation of pleasure and the realization of some of those facts kept one spell-bound. Among other things, he considered the

physician from the standpoint of a man and all the qualifications that go to make a man of trust, also his relation largely to our Nation and what he has accomplished in the way of saving lives from the fear of such diseases as yellow fever, malaria, small-pox, diphtheria, syphilis, and the war that is now being waged against tuberculosis. He dwelt on the fees for service, stating that while the doctor was learning how to scientifically annihilate disease, he was decreasing the very work for which he was to collect his fees; but yet at the foundation of it all he further said, "There must be that quality of man that is not seeking mere mercenary gain, but rather from a humane standpoint, a love for so high and honorable a calling."

Dr. Wiggins no doubt had prepared a most excellent paper for us but had to make his train before he had gotten fairly started with it. A vote of thanks was accorded these brethren and they were invited to come again.

Adjourned to meet again at our regular time in January.

LA SALLE COUNTY

The fall meeting of the La Salle County Medical Society was held at Marseilles, Oct. 24, 1911. About fifty doctors from all parts of the county were present and a very successful meeting was held.

The amendments to the State Constitution and By-Laws offered by Drs. Black, Zurowski and Colman in the last house of delegates and referred to component society were acted on with the following result. Those offered by Dr. Black were unanimously adopted. Those offered by Drs. Zurowski and Colman were lost. Five applications for membership were read, referred to the Board of Censors, approved and the applicants elected to membership. Dr. Pettit presented the following resolution, which was unanimously adopted:

Resolved, That we, the members of the La Salle County Society, view with favor the proposition to establish a county sanatorium for the care and treatment of the tuberculous, and most respectfully urge the Board of Supervisors of this county to act favorably on the proposition now pending before that body.

The Society voted to hold a mid-winter meeting which will be more along the line of a social meeting than for a scientific program. Dr. Pike presented an interesting paper on "Infantile Paralysis." The Society then adjourned to the Marsatawa Club House as guests of the Marseilles physicians for dinner. Dr. L. W. Littig, president of the Iowa State Medical Society, then presented an interesting paper on "Puerperal Septicemia." Dr. M. H. Mack presented a paper on "Colonic Flushing" that was well received by all present. Dr. J. Rawson Pennington gave a paper on "Dislocations and Abnormalities of the Rectum and Colon." Dr. Pennington showed some beautiful skiagraphs of work in connection with his specialty.

The Society passed a resolution of thanks to the Marseilles physicians for their fine entertainment, also a resolution thanking the essayists who had come to us from outside of the county. It was decided to hold the next meeting at Streator. All report having had a fine time and a very profitable meeting.

A. J. ROBERTS.

INFANTILE PARALYSIS

W. A. PIKE, M.D.

OTTAWA, ILL.

It is not my intention at this time to treat the subject of infantile paralysis in detail, as it would of necessity be impossible in the time allowed for the presentation of this paper. The disease known as infantile paralysis has been recognized medically for hundreds of years and no doubt dates back to the origin of the human race.

For many years it was the belief of the medical profession as well as the laity that the disease was the direct result of injury or exposure and it was only in the light of recent investigations that the true cause has been assigned.

Occurring as it usually does in early childhood and often attacking a child otherwise in the best of health it is easy for the mother to remember a fall or an injury of some kind and it is often very difficult to convince her that the paralyzed limb is the result of a pathologic condition of the nervous system and not of the injury. Until quite recently it was described in literature as a disease of the spinal cord affecting chiefly the motor cells of the anterior horns of gray matter and that the degeneration of the motor cells was the primary lesion, and it was not until the epidemic nature of the disease was observed that it became apparent that anterior poliomyelitis was an infectious disease due to the action of some germ, specific poison or virus.

On experiment it was found that the disease could be transmitted from man to the lower animals and it was proved conclusively that the disease was due to a living virus, a virus furthermore that has a strong affinity for the tissue of the nervous system. Unlike the organism which causes typhoid fever, cholera, etc., this virus is not visible even with the highest power of the microscope. It belongs therefore in the same class with the so-called ultra-visible viruses that have already been described in rabies and foot and mouth disease.

It cannot be cultivated outside of the human body and observations on its life and actions are therefore made with difficulty. It has, however, one characteristic in common with the germs causing the more common infectious diseases, in that one attack of the disease renders the patient immune to subsequent infection.

Infantile paralysis occurs more commonly in early childhood but quite a number of cases have been observed in adults. Isolated or sporadic cases are quite common but statistics show that during the past ten years there has been a marked increase in its occurrence in epidemic form. There has been a marked increase in the number of epidemics and also in the number of cases. Perhaps increased interest in the study of the disease may account for the greater number of cases reported, but it is beyond contradiction that the actual number of cases is on the increase. The next important and somewhat disputed question is the mode of entrance into the human body.

It has been proved by experiment that the disease can be transmitted from man to monkey and from monkey to monkey but, of course, it has been impossible to demonstrate whether or not it can be transmitted from animal to man.

There are recorded some cases in which prior to the child being attacked by the disease some animal or fowl about the place has previously exhibited signs of paralysis. As the virus is very short lived outside the human body it is most reasonable to suppose that the disease is transmitted directly from man to man.

That the disease is not highly contagious is easily proven by the fact that only a limited number of persons directly exposed in institutions and large families where the disease exists contract the disease. There are, however, in all epidemics a large number of abortive cases in which the virus is found and these acting as carriers are no doubt an important factor in disseminating the disease. Also the experiments of Flexner, Clark and others, demonstrating that the virus may persist in the nasal mucous membranes of monkeys for weeks and even months, suggest the probable existence of human carriers, namely, abortive cases, convalescents, etc.

It has been suggested that the disease may be transmitted by dust and there are various evidences in favor of this theory, namely, that its greatest prevalence is during the dusty season; that the disease occurs proportionally more often in country villages than in cities where streets are sprinkled; that the epidemic markedly abates after sprinkling the streets and the fact that it occurs chiefly amongst children at the age when they commonly play in the dust. However, as yet all of these theories are more or less speculative.

The pathologic conditions found in the spinal cord in brief are as follows: First, congestions and inflammation with a proliferation of the cells about the blood vessels, with a narrowing of their calibre and edema in the interstitial substance of the gray matter of the cord; also to some extent in the white matter and meninges. Secondly, as the result of the above we have the degeneration of the motor cells.

The symptoms of the disease are those of a general infectious disease with localization in the nervous system; fever of a mild degree, restlessness, irritability and insomnia. In mild cases we may have twitching of the limbs and symptoms of meningeal irritation of the brain or cord. In more severe cases there may be convulsions, headache and pain in the back and limbs.

There may be vomiting and diarrhea, but more often constipation. Usually there is profuse perspiration. After these symptoms have persisted for from twelve to seventy-two hours the characteristic peripheral symptoms appear. These consist of weakness or complete paralysis of one or more groups of muscles in one or more of the extremities. Sensation is usually unaffected and when the lower limbs are involved the patellar reflex is abolished. In the more severe cases the paralysis may be progressive, involving all of the limbs, next the muscles of speech and deglutination and finally the muscles of respiration, resulting quickly in death.

I think perhaps I may be able to picture to your minds more clearly the course of the disease and the treatment most advocated by describing a case which came under my observation some two months ago which was in most respects a typical case.

Mary B., aged 3 years, and the eldest of three children, living three miles in the country and apparently in her usual health, was brought to town on Sunday afternoon for a visit with relatives. After playing about for a time she complained of being tired, was irritable, slightly nauseated, face flushed and bathed in perspiration; was taken home. Very restless during the night, complained of slight headache and no appetite. The next day she seemed a trifle better but stayed in bed; seemed to be slightly feverish and no bowel movements. That night and next morning she was still about the same and in the afternoon Tuesday the mother sent for me. I found the child in bed, temperature 100, pulse 120, face flushed and perspiring freely, tongue coated, no appetite, restless and irritable. The only thing she really complained about was a slight pain in the back of her neck and she did not want to be moved as it hurt her back. The bowels had not moved for two days. In the absence of any rash and with no other definite symptoms except the pain in the neck I suspected infantile paralysis and examined her limbs for any evidence of paralysis and found none. I gave her a large dose of calomel, also some urotropin, told her mother to give her a sponge bath and watch carefully for any evidence of paralysis or a rash.

The next day her mother telephoned that her condition remained the same but that her bowels had only moved slightly. The next day, Thursday, she telephoned that the child was not using her one arm and wished me to come out.

I found the child in practically the same general condition as on my previous visit. The muscles of the left upper arm were paralyzed; that is the deltoid, biceps and pectoral muscles. The forearm was not affected; she could move her hand and fingers and had a fair grip. She complained of more pain along her spine on being moved with the pain radiating down the opposite lower limb, but no paralysis of the lower limbs.

The upper arm was hypersensitive to touch but moving it caused no pain. The right leg was not over sensitive to touch but motion caused pain. She was still obstinately constipated and required repeated doses of calomel, also rectal enemata. Calomel, bismuth and urotropin were the only internal medicines used. I had the affected limb wrapped in flannels and directed that she be kept as quiet as possible. During the next two days she had a great deal of pain and was restless and slept very little. Analgesic Bengall applied to the affected limbs relieved the pain and shortly after its use she fell asleep. After a few days most of the general symptoms disappeared and I ordered massage of the affected

limbs. At present the upper arm shows a slight improvement in muscular power but is still sensitive. The opposite leg did not develop any paralysis but is still quite sensitive and she walks with a slight limp. I have directed that as soon as the tenderness disappears electricity be used in addition to the massage and passive motion of the limbs. The child was isolated as much as possible and antiseptics and disinfectants were used and neither of the other children contracted the disease.

There was one interesting feature, however, in this connection. Clothes soiled by excreta from the bowels and kidneys were placed in a shed in the yard until boiled later and a chicken which roosted in that shed about a week later developed a paralysis of one leg and one wing, showing that the disease can be transmitted from human to animals through excreta.

You will observe that the treatment employed in this case was about the same as was used fifty or one hundred years ago, but so far as I have been able to ascertain no other of the many remedies that have been tried have proven beneficial.

Urotropin, the only drug that seems to be generally recommended, is of little value after the paralysis has developed. If used early it is claimed that it limits the paralysis and prevents its extension, but its greatest value lies in its power as an intestinal and urinal antiseptic. It is also of great value as a prophylactic and should be administered to other children who have been exposed.

Of course there is a wide variation in the symptoms and conditions that arise during the course of the disease in different individuals but for the most part they are much the same as those occurring in the other contagious diseases and should be dealt with in much the same way as the occasion demands.

Infantile paralysis at the present time is probably the subject of more investigation than any other, and while remarkable strides have been made in determining the true nature of the disease very little of value has been added to our knowledge of the treatment. All efforts so far to produce a vaccine have proven of no avail. However, as that is the only source we can look to for help let us hope it is only a matter of a short time until the discovery is made.

At first there is a rapid atrophy of the muscles of the affected limb and sometimes marked contractions and serious deformities but usually the limb gradually regains most of its strength and power and in quite a number of the milder or so-called abortive cases the paralysis soon disappears entirely.

As to diagnosis; except in epidemics the diagnosis is seldom made until paralysis has developed, as in a great majority of the cases the early symptoms simulate those of other acute contagious diseases.

The prognosis with regard to life is usually good but the picture of a child going about with the wasted limb, the unsightly deformity or the pitiful limp is a sight only too familiar to all of us.

MADISON COUNTY

The Madison County Medical Society met at Granite City on November 6, with Vice-President Dr. E. C. Ferguson presiding. Present: Drs. Wedig, Burroughs, Barnsback, Hirsch, Spitze, Kerchner, Cowan, Oliver, Ferguson, R. B. Scott, Schroeder, Schreifels, W. H. Grayson, Gwynn, Niedringhaus, King, J. W. Scott, Wahl, Theodoroff, Tulley, Hastings, Robinson, Johnson, Baker, Harlan, Pfeifferberger, Kiser, Zoller and E. W. Fiegenbaum.

The applications of Dr. H. R. Reuss and Dr. J. W. Baker, both of Granite City, were read and upon favorable report by the Board of Censors both were duly elected.

Dr. J. H. Wedig, of Granite City, then read an exhaustive paper on "Tuberculosis," giving the history of the disease from a very early day and continuing down to the present, discussing the various phases that enter into causation and

pathology. Dr. Pfeiffenberger moved that the paper be received and ordered printed, which was carried.

The annual meeting, when new officers will be elected, will take place on December 1, at Alton, Ill. E. W. FIEGENBAUM, Secretary.

M'LEAN COUNTY

The McLean County Medical Society met in regular session at St. Joseph Hospital, Bloomington, Nov. 2, 1911, at 1 p. m. Dr. L. B. Cavins, Bloomington, and Dr. E. V. Rice, Chenoa, were elected to membership in the society. On the announcement of the death of our senior member, Dr. Lee Smith, the following resolutions were presented, adopted and ordered engrossed, framed and presented to the family:

WHEREAS, It has pleased the Almighty to call from this sphere our brother practitioner, Dr. Lee Smith, one of the most useful members of our profession, as well as one of the oldest, and

WHEREAS, Dr. Lee Smith was ever the true and conscientious physician, ever ready to answer the call of the most lowly with the same alacrity as those in affluent circumstances, therefore be it

Resolved, That the McLean County Medical Society deplore his death, and express to the family their sympathy in its great affliction. (Signed) F. H. Godfrey, M.D., F. C. Vandervort, M.D., H. W. Elder, M.D.

As the home of one of our members, Dr. A. L. Chapman, has been darkened by the death of a daughter, the following committee was appointed with instructions to draft resolutions of sympathy and forward a copy of same to the family. Committee: Dr. R. Galoway Yolton, Dr. M. F. Savage, Dr. F. C. Vandervort.

The committee reported the following resolution and a copy was promptly forwarded to the family:

WHEREAS, It has pleased the All Wise Father in Heaven to call from earth the beloved daughter of Dr. and Mrs. A. L. Chapman, and

WHEREAS, Jessie Chapman was cut off in the bloom of young womanhood, we deplore her sad death, and extend to the bereaved parents our heartfelt sympathy.

Resolved, By the McLean County Medical Society that a copy of these resolutions be sent to the parents and a copy thereof be spread upon the records of the Society. (Signed) F. C. Vandervort, M. F. Savage, R. G. Yolton.

The society then went into joint session with Brainard District Medical Society and thirty doctors witnessed the following clinic: Dr. E. A. Behrendt, Herniotomy; Dr. E. P. Sloan, Shortening of Utero-Pelvic Lateral Ligaments and Trachelorrhaphy and Perineorrhaphy; Dr. Thos. W. Bath, Appendectomy and Gall-Bladder Drainage; Dr. E. P. Sloan, Hysterectomy and Shortening of Utero-Pelvic Lateral Ligaments; Dr. E. A. Behrendt, Wiring of Ununited Fracture of Tibia, lower third; Dr. Geo. Small, Exhibited a Case of Pseudoleukemia; Dr. R. L. Eldredge, Paper Ordered printed in Bulletin.

DR. THOMAS D. CANTRELL, Treasurer.

PEORIA CITY MEDICAL SOCIETY

The Peoria City Medical Society with 100 members, the second society in the state, has issued a program for the entire year, printed on card board, and adapted for the doctor's desk or office wall, and calculated to bring to the attention of its members the semi-monthly meetings as they occur.

We print the program for the remainder of the year, and commend this method to all our societies as an excellent means of keeping alive interest in the work.

December 5.—“Medicine for the Mind,” Dr. W. B. Short; “Growth of Tissue, and Cellular Growth in Serums and Saline Solutions,” Dr. J. H. Bacon.

December 12.—Joint Meeting with the Peoria Association for the Prevention of Tuberculosis; “The Importance of an Early Diagnosis in Tuberculosis and How to Make It,” Dr. J. W. Pettit, Ottawa.

December 19.—Annual meeting, election of officers; “President’s Address,” Dr. A. L. Corcoran.

January 2.—Dr. Willard Bartlett, St. Louis.

January 16.—“Mastication as Related to Digestion,” Dr. W. A. Johnston; “The Newer Remedies, and Their Usefulness to the Medical Profession,” Dr. Paul R. Fritsche.

January 23.—Complimentary banquet to Dr. O. B. Will.

February 6.—“Present Views of the Treatment of Infantile Paralysis,” Dr. John Ridlon, Chicago.

February 20.—“Congenital Pyloric Obstruction,” Dr. J. F. Duane; “Developments in Cystoscopy,” Dr. T. W. Gillespie.

March 5.—“The Commercial Aspect of the Medical Profession,” Dr. W. R. Allison; “Pellagra to Date,” Dr. George A. Zeller.

March 19.—“A Case of Blindness Following Hemorrhage from the Stomach,” Dr. C. B. Welton; “Acute Dilatation of the Stomach,” Dr. C. U. Collins.

April 2.—“The Field of Child Hygiene in Public Health Work,” Gottfried Koehler, assistant commissioner Chicago Department of Health.

April 16.—“Obstruction of the Bowels,” Dr. C. U. Collins.

May 7.—“Profuse Hemorrhage from the Urinary Tract,” Dr. Herman L. Kretschmer, Chicago.

May 21.—“Caisson Disease, with Report of Cases,” Dr. E. E. Barbour; “Insanity as Defense in Criminal Cases,” Dr. George Mitchell.

June 4.—“The Development of the X-Ray as an Aid to Diagnosis,” Dr. George H. Weber; “Systemic Infections from the Tonsils,” Dr. C. D. Thomas.

June 18.—“Report of an Unusual Complication in a Case of Hyperthyroidism,” Dr. C. G. Farnum; “Mastoiditis, Résumé of Literature,” Dr. F. K. Sidley.

SANGAMON COUNTY

The regular meeting of the Sangamon County Medical Society convened at Lincoln Library, Springfield, November 13, at 8:15. The evening was given over to demonstration of pathologic specimens, and proved particularly interesting. Dr. Trapp presented a specimen of hypertrophied heart, which had been diagnosed as aortic aneurysm by some of the best clinicians of the west. Dr. L. C. Taylor presented a specimen from the transverse colon, showing ulceration due to dysentery, and Dr. C. L. Patton showed a rare fibroma from the anterior cervical portion of the uterus.

The society endorsed the employing of a trained nurse by the Springfield Board of Health, and decided to hold the annual banquet on December 11, the guests of honor to be Dr. A. J. Ochsner and Dr. W. K. Newcomb, president of the Society.

VERMILION COUNTY

The Vermilion County Medical Society was called to order Nov 13, 1911, 8:20 p. m., with Dr. J. G. Fisher in the chair.

The minutes of the preceding meeting were read and approved. By consent the constitution and by-laws were suspended and Dr. Clark presented an eye case; Mrs. F.; an exaggerated exophoria. She had headaches and fatigue of the eyes for many months previous to his doing what is known as an advancement of the internal rectus muscle. The result was highly pleasing as all symptoms have disappeared. Dr. Coolley reported resolutions on the death of Dr. H. L. Hensley, which occurred Sept. 19, 1911. The resolutions were read and accepted. The

president instructed the secretary to spread a copy on the minutes and to send a copy to the bereaved family.

The proposed amendments to the state constitution were taken up; a motion was passed that Dr. Coolley send a copy of the same to each member of the society and dispose of them at the next regular meeting.

Dr. A. J. Clay then took the floor and gave a very interesting lecture on "Valvular Heart Sounds: Where Best Heard in Health and Disease."

Dr. Steely was not present with his paper on "Hypertrophy and Dilatation of the Heart."

Dr. Hohman, of Berlin, Germany, being present, was asked to talk on heart disease. He responded with a very interesting talk on murmurs and what they signify. Dr. Robt. McCaughey then talked at length on the method of percussing and outlining the heart. Dr. Clay then closed the discussion.

Adjourned. Number present, 29.

SOLOMON JONES, Secretary.

WABASH COUNTY

The Wabash County Medical Society met at Schneck's Hall at Mt. Carmel, Ill., October 24.

Dr. William H. Gilbert of Evansville, Ind., read a paper on "Is There a Medical Treatment for Appendicitis?" He said yes, until you could get the patient to a hospital or get a surgeon to the patient, or until you could get the patient's consent to an operation. The paper was an able one and was well received.

Dr. C. C. Craig presented a patient whom he had treated for tertiary syphilis with "606" with markedly happy results. Officers were elected as follows: Dr. S. W. Schneck, president; Dr. J. J. McIntosh, vice-president; J. B. Maxwell, secretary; E. R. Lescher, treasurer; R. J. McMurray, censor.

WAYNE COUNTY.

The Wayne County Medical Society met pursuant to call at the office of the secretary, Dr. J. P. Walters, Fairfield, Ill., Nov. 2, 1911, with President Johnson in the chair. The society was called to order by the president at 10:30 a. m. The morning session was entirely taken up by a case of Colle's fracture occurring July 15, 1911, presented by Dr. Walters. The case was diagnosed as a fracture of the styloid process from the shaft of the ulna and dislocation of the carpal bones from the radius by direct violence. Later examination revealed the fact that the outer portion of the radius was broken off, entering into the joint, thereby creating the characteristic silver-fork crook of the wrist.

Adjourned to meet at 1 p. m. The annual election of officers was then held. Dr. W. M. Johnson of Johnsonville, was reelected president. Dr. J. E. Dixon, of Sims (reelected), vice-president. Dr. Ostella Blakely, Fairfield, secretary and treasurer. Censors to be appointed by the chair when occasion demands their services.

A vote of thanks was extended Dr. Walters for his faithful and proficient services as secretary-treasurer for the past number of years.

Dr. J. E. Dixon read a paper on "Insanity" which was discussed to some length by Drs. J. W. Miller, W. C. Silbey, and closed by Dr. J. E. Dixon.

Dr. J. W. Miller's application for membership was presented to the society. The regular rules were suspended, and Dr. Miller was unanimously elected to membership.

Those present were Drs. Wm. M. Johnson, president; J. P. Walters, secretary; J. E. Dixon, J. D. Harlin, W. C. Sibley, J. T. Blakely, Ostella Blakely, H. Q. Allison, J. W. Miller, J. L. Young, E. E. Roberts and C. D. Truscott.

Meeting adjourned in regular order.

WESTERN ILLINOIS DISTRICT MEDICAL SOCIETY

The annual meeting of the Western Illinois District Medical Society, was held at Pittsfield, Ill., Oct. 27, 1911, in the Probate Judge's Room, County Court House. The following officers were elected: President, W. E. Shastid, Pittsfield; first vice-president, A. L. Adams, Jacksonville; second vice-president, Elizabeth B. Ball, Quincy; secretary and treasurer, W. P. Duncan, Jacksonville. Board of Censors: J. H. Rice, Quincy; H. W. Chapman, Whitehall; C. E. Beavers, Barry.

The following papers were read: "Headache," L. H. A. Nickerson, M.D., Quincy; "The Psychoneuroses," E. L. Crouch, M.D., Jacksonville; "The After Treatment of Miscarriage," G. Taphorn, M.D., Alton; "Hodgen's Suspension Splint," H. W. Chapman, M.D., White Hall; "Post-Operative Complications and Treatment," J. A. Day, M.D., Jacksonville; "A Pterygium Involving Most of the Cornea," W. E. Shastid, M.D., Pittsfield; "The Conservation of Vision," A. L. Adams, M.D., Jacksonville; "The Uses and Limitations of Tuberculin as a Diagnostic Agent," C. E. Beavers, M.D., Barry; "The Management of a Normal Case of Labor," Elizabeth A. Ball, M.D., Quincy.

USES AND LIMITATIONS OF TUBERCULIN AS A DIAGNOSTIC AGENT

C. E. BEAVERS, M.D.

BARRY, ILL.

The routine use of tuberculin as a diagnostic agent in cases suspected of being tuberculous, dates from the time von Pirquet demonstrated the technic of producing the local cutaneous papular reaction by superficially scarifying the skin through a drop of Koch's old tuberculin, in a paper read before the Berlin Medical Society in May, 1907. This was soon followed by the demonstration of a description of the conjunctival reaction by Wolf-Eisner and Calmette. Other modifications of procedure were suggested by other investigators, among them the rubbing in of a small amount of 50 per cent. tuberculin ointment in wool fat, the new test. All of these reactions are explained as being due to the presence of antibodies in the integument of persons who had acquired an immunity to tuberculous infection, as in latent or healed cases, or in those in whom active foci of infection were still present, but where the cells of the organism were still able to resist the infection more or less successfully as demonstrated by the liberal production of antibodies to counteract the toxins of the tubercular bacillus.

The manner in which the local reaction is supposed to be produced is that the antibodies in the integument of the individual who is or has been harboring a tuberculous infection, attacks and digests as it were the introduced specific toxin, and liberates a product which produces the local inflammatory reaction.

Postmortem statistics of careful investigators show the test to be accurate both in a positive and in a negative way in more than 90 per cent. of cases, and that it is almost always positive in the clinically tuberculous except those very advanced cases in which all antibodies have been used up in the unsuccessful fight against the disease.

Value.—A positive reaction indicates a present or past tuberculous process, without giving much idea as to whether latent or active at the time the test was made. An exception to this rule may be mentioned. In children under two years of age a positive reaction is almost conclusive evidence that an active process is present, because of the rarity of latent foci at this age.

The Moro test has no advantage over the cutaneous test. It has the disadvantages of varied periods of absorption in the integument of different individuals, and its successful employment also depends on the thoroughness of its application, force employed, etc., by the person making the test.

The conjunctival reaction in the opinion of some observers when positive more certainly indicates the presence of an active process, but the final word has not been said in this regard and further observation and study are necessary before

arriving at a positive conclusion. The same may be said concerning the locality at which the test is made, the strength of the solution employed and the stage of disease at which the patient comes under observation.

To sum up the value of the test in the light of our present knowledge we feel reasonably safe in the following conclusions:

1. A positive reaction indicates a past or present infection by the tubercle bacillus, without giving much of an idea whether active or latent.
2. A negative test is almost positive evidence the individual has never had such infection.

(a) Very advanced cases often react negatively on account of lessened resistance and the absence of antibodies as before mentioned.

(b) A positive reaction in children two years old or under indicates an active process going on for obvious reasons.

Case History.—Willie Hastings, American; occupation thresher; aged 25 years; weight 160 pounds. Family history: one sister died of pulmonary tuberculosis 1909, aged 28 years. One brother burned to death in house fire at about 17 years of age.

Personal history and habits regular. No previous illness.

Recent illness: pain in upper abdomen below liver, which is considerably enlarged, seemed connected with liver for a while; later developed same kind of mass on left side, which at first appeared continuous with the spleen.

Present condition: moderately anemic, sallow, not emaciated; strength average. Circulatory system: blood examination failed to reveal leukocytosis, and excluded leukemia. Respiratory system: persistent rasping cough aggravated on deep respiration. Digestive system: appetite good, tongue only very slightly coated. Glandular system: negative; urinalysis negative. Nervous system: negative. Surgical history, negative.

Treatment: Believing the process to be a tuberculosis of the peritoneum and omentum, anti-suppurative treatment was given as follows: Tonic, syrup of iron and manganese before meals.

For cough, ammonium chlorid and compound syr. hypophosphites after meals and bed-time.

Tuberculin, Mulford's serial dilution beginning June 28 with ii m. of No. 1.

Von Pirquet applied June 25; on June 28 a positive reaction had occurred; in making the test the Old Tuberculin (Koch) was used. Mulford's dilution No. 5. Record of tuberculin administered hypodermically:

Milford's S. D. No. 1.			Milford's S. D. No. 2.			Milford's S. D. No. 3.		
4 minims.			2 minims.			2 minims.		
6 minims.			4 minims.			4 minims.		
8 minims.			6 minims.			6 minims.		
10 minims.			8 minims.			8 minims.		
12 minims.			10 minims.			10 minims.		
14 minims.			12 minims.			12 minims.		
16 minims.			14 minims.			14 minims.		
18 minims.			16 minims.			16 minims.		
20 minims.						18 minims.		
						20 minims.		

Date.	Temperature.	Pulse.	Date.	Temperature.	Pulse.
6/23.....	99 evening	...	8/13.....	98.6	84
6/25.....	99 morning	...	.....	...	...
6/28.....	99.4 evening	...	8/20.....	99	84
7/ 1.....	98.6	...	8/23.....	99	84
7/ 4.....	98.8	96	8/27.....	99	84
7/ 8.....	99.4	90	8/30.....	100	100
7/11.....	99.2	84	9/ 2.....	99.2	96
7/16.....	99.6	96	9/ 6.....	90	90
7/20.....	99.2	96	.....	...	...
7/23.....	100	96	9/16.....	98	96
7/26.....	99.2	96	9/20.....	98.2	90
7/28.....	99	96	9/24.....	98.2	...
8/ 2.....	98.8	96	10/ 1.....	99	96
8/ 6.....	100	102	10/ 3.....	99.2	...
8/ 9.....	99	96	10/20.....	98	90

THE AFTER-TREATMENT OF MISCARRIAGE

G. TAPHORN, M.D.

ALTON, ILL.

This is a subject that requires more consideration than is usually given it. Every year I meet one or more of these cases that terminate fatally because they are not properly treated, or not treated at all until too late. The percentage of miscarriages to pregnancies is hard to obtain, but is estimated to be about 10 per cent. Some authorities say 20 per cent. Judging from my own experience 20 per cent. is more nearly correct.

The after-treatment in a clean miscarriage where the bag with all its contents is expelled including the rudimentary placenta, and leaving practically a clear field in the uterine canal, is very simple; bichlorid douche twice daily, and rest in bed for a week is usually sufficient in these cases. We find these cases frequently when gestation is less than eight weeks duration; after that very seldom, but if the amniotic fluid passes before the fetus and membrane we usually have more trouble, not only hemorrhage but danger of infection. If there are no symptoms of infection, a large vagina, and soft cervix the hand is an excellent curette; placing one hand on the abdomen to hold the uterus firm, the other in vagina, this can usually be accomplished without anesthesia. When the vagina will not permit introducing the hand a small spiral curette, with the aid of a speculum and vulcellum forceps is very convenient and effective. Irrigation can be done immediately after curettement. The spiral curette acts very effectively until about eight weeks gestation, after which it is of little use. The hollow-spoon curette or the hand will be necessary after this.

We now come to a more neglected case; the fetus has passed but there is some pain, also hemorrhage and fever, some tenderness over one or both iliac regions, slight abdominal distention. Careful examination of the uterus will reveal retained membranes, part of or an entire placenta. This should be removed at once with a sharp curette, cavity irrigated with bichlorid solution, then the entire uterus cavity sponged out with solutions of phenol and iodin equal parts. This is not only a powerful antiseptic but also excites contraction of the uterus. As a general treatment a full dose of sulphate of magnesia is given at once, followed with tonics, especially quinin and iron; rest in bed for not less than two weeks; hot antiseptic douches daily. This is usually sufficient to relieve these mild cases.

Next we have the more neglected case of septic peritonitis, with high temperature, distended tympanitic abdomen, nausea, bowels constipated, urine scanty, the uterine cavity with perhaps the same contents as the former, only more degenerated. This should be removed at once, the uterine cavity irrigated with phenol solution, and a gauze drain left in the uterus. Irrigation should be repeated three to four times daily, and the drain replaced; also saline enemas three to four times daily; ice on abdomen until temperature drops to 101 or less. By this treatment we may soon find pus in the abdomen, which can be drained with increased chances for recovery. The mortality in this class of cases has been very large in my practice.

After the first aid in the after treatment of miscarriage, which is to save the woman's life, comes a second duty of the physician: What caused the miscarriage? Unfortunately the great majority of miscarriages in my practice are produced, not accidental or due to some pathologic condition. We will only consider those caused from the latter.

Chronic endometritis is one of the principal causes. These cases should be curetted and sponged out with phenol and iodin just as a septic uterus. The patient should also remain in bed two weeks or more with daily douches and tonics.

Lacerated cervix is another cause frequently met with in these cases. If the cervix is long and hypertrophied, amputation gives the necessary relief with good results in future pregnancies. If not elongated a V-shaped piece of tissue

may be removed from the lacerated part, and stitched carefully with No. 20 cat-gut; a gauze tampon in the vagina will hasten union. This should be removed every two days and replaced after vaginal irrigation.

Retroflexion is another cause. These cases report one or more miscarriages at about two and a half or three months gestation. On examination we find the uterus of normal size, clean and no laceration, but find the fundus resting in the hollow of the sacrum, and only slightly movable. These cases may sometimes be best treated after one or two months gestation, by elevating and supporting the fundus with a gauze tampon, to be renewed every two days and continue so until gestation is just three months, when the uterus is elevated above the hollow of the sacrum, and retains its position. If seen before pregnant, the Alexander operation is very efficient, unless adhesions are too firm, when an abdominal incision is necessary with removal of the adhesions and fixation of the uterus to the anterior wall.

Uterine myoma is another cause. These cases are often taken for endometritis, as the size of the uterus is not greatly increased. The history of hemorrhage at times when there was no foreign body in the cavity is a prominent symptom. Miscarriage in these cases usually comes early, the woman positively denying that she was pregnant until you remove membranes and fetus with curette. After curettement and a good recovery for two or three weeks examine the uterus again bi-manually; you will find slight enlargement, especially on one side. Sounding the uterus will show increase in length of the canal to a marked degree. The next menstrual period may be normal, but the longer you wait in these cases the less your patient's chances are for recovery from a hysterectomy which should be done as soon as possible.

Atonic condition of the uterus is another cause which the writer has found in women who had practiced abortion for years, when for some reason they long for a baby, but to their surprise find they can not carry a fetus more than two or three months. On examination we find an enlarged, soft uterus. Light curettement, followed by astringent sponges once or twice weekly, sometimes restores normal tone to the uterus, but the majority of these cases under my observation have remained sterile as it were.

A word on curetting. Is curetting ever dangerous? Yes. First, the danger of hemorrhage, which is the least. Second, perforating the uterus with the instrument; the writer has done this three times, but fortunately no serious results followed. Third, embolism. The writer had one woman die of embolism after curettement. This was one of the types mentioned above with large, soft, atonic uterus, which did not contract even after treatment. This woman lived twelve hours after curettement. She was strong and well before, except uterine disturbance consisting of irregular menstruation and hemorrhage.

THE MANAGEMENT OF A NORMAL CASE OF LABOR

ELIZABETH B. BALL, M.D.

QUINCY, ILL.

In taking up this subject it would probably be well to consider what labor is, and why it takes place when it does. Labor is that natural process by which a woman expels from the uterus and vagina the ovum at its period of full maturity, which is reached on the average 280 days after the first day of the last menstruation. The process is divided into three main stages or acts: First, the expansion of the birth canal. Second, the expulsion of the fetus. Third, the delivery of the remainder of the ovum.

Why labor occurs at the end of 280 days has given rise to endless explanation in all ages of medicine. Hippocrates explained the onset of labor by the hunger of the fetus which impelled it to make its exit from the womb to seek something to eat. Today we believe it is due to the influence of periodicity. The period 280 days, or 40 weeks, or ten lunar months, must at once direct our attention to the fact that labor comes on at the 10th menstrual period since pregnancy began.

At the menstrual period in the non-pregnant, there is always distinct muscular action, induced probably by the presence of a foreign body, blood in the uterine cavity. During pregnancy it has long been known that by the unconscious memory of living tissue, there occurs at regular intervals, corresponding to the menstruation period, a disposition to muscular action which is at times so exaggerated as to bring about an expulsion of the ovum, an accident especially to be feared at such times in women prone to abort.

To the conscientious practitioner the management of a case of labor includes more than the care of the patient at the time. It is his duty to tell her how to take care of herself during the pregnant period. 1. Diet should be nutritious (patient eat everything). 2. Moderate amount outdoor exercise each day. 3. Clothing should be loose. 4. Skin action should be stimulated by warm bath. 5. Constipation should be corrected. 6. Nipples during last month bathed night and morning with equal parts glycerole of tannin and water. 7. Urine examined carefully for albumen, sugar and microscope, once a month, for the first six months, and once a week for the last three months.

Patient should be instructed to inform the physician in case any of the following symptoms be noted: 1. Scanty flow of urine. 2. Persistent headaches. 3. Disturbances of vision. 4. Swelling of feet and face. 5. Any loss of blood, no matter how slight. 6. Persistent constipation.

Four to six weeks before expected confinement, careful examination of patient must be made. 1. Note general conditions. 2. Take pelvic measurements. 3. Position and presentation of child determined by external palpation. 4. Listen to the fetal heart. 5. Internal examination necessary only in those cases in which external palpation gives uncertain or unsatisfactory results.

As a part of his management of the pregnant woman the physician should instruct the patient or some of her friends to have on hand: 1. Towels. 2. Fountain syringe. 3. Bed pan. 4. Small package absorbent cotton. 5. Rubber cloths. 6. Five yards of sterile gauze. 7. Two ounces alcohol. 8. Four ounces olive oil.

When the obstetrician is called he should take with him: 1. Gown. 2. Rubber gloves. 3. Sterile cotton pads and packing. 4. Nail file and brush. 5. Umbilical tape. 6. Ergot. 7. Bottle bichlorid tablets. 8. Bottle boracic acid solution (grs. xv to 1 ounce). 9. Scissors. 10. Hemostatic forceps (two). 11. Needles (two). 12. One tube silk-worm gut.

On arriving at the home he prepares to make both an external and internal examination, and listen to fetal heart. For the internal examination the patient is placed on her back with the hips brought well to the edge of the bed with the thighs flexed on the abdomen, and the legs on the thighs. If a nurse is present, she is instructed to arrange the patient, and while she is doing so, the physician is disinfecting his hands by: 1. The cutting of finger nails. 2. Scrubbing hands and forearms up to the elbows with nail brush, green soap and hot water for ten minutes, changing hot water twice during this process. 3. Then rinse in fresh water. 4. Soak in 1-1000 bichlorid.

In addition to the hand disinfection it should be an invariable rule to wear rubber gloves. Everything being in readiness for the vaginal examination, the examining finger is dipped into some sterile lubricant, the vulvar orifice wiped off with pledgets of cotton soaked in 1-2000 sublimate solution and the forefinger of the examining hand inserted into vaginal orifice. While making this examination the obstetrician should note: 1. Character of vaginal discharge. 2. State of perineum (whether relaxed, rigid or torn). 3. Capacity of pelvis. 4. Condition of cervix. 5. Degree of dilatation of os. 6. Part of fetus presenting, and position of presenting part. 7. Condition of membranes (whether ruptured or not). 8. Force and frequency of pain.

If satisfied that labor has begun the patient should be given rectal enema, after which she may be allowed to sit up or walk around, depending on conditions.

Bed should be arranged in following manner: 1. Mattress. 2. Piece of rubber or oilcloth. 3. Clean sheet. 4. Another piece of rubber. 5. Sheet folded in four.

When patient is put to bed she lies on her back. If pains are too severe give chloroform. Protect perineum by holding back head with a pad of sterile gauze.

After birth of head physician passes finger around neck to find out whether or not it is encircled by umbilical cord. 1. Delivery of shoulders is watched carefully. 2. Infant kept warm and dry. 3. Throat and mouth wiped out. 4. Cord tied and cut after all pulsation has ceased. 5. Hand of physician placed on patient's abdomen, and slightly massaged.

Management of third stage of labor is of great importance. As late as the 18th century many obstetricians argued that the delivery of the placenta should be left entirely to nature. The result was disastrous. The best method of expression which we have to-day is that of Professor Credé of Leipsic.

1. In applying this method the uterus is seized between the thumb and fingers, is kneaded and rubbed until it contracts with vigor, then firmly pressed down in the direction of the axis of the pelvic inlet, and squeezed out as the stone is pressed out of a cherry. 2. Patient is given 1 drachm fluid extract ergot. 3. Examination for tears and lacerations. 4. If uterus remains contracted and there seems no danger of hemorrhage, abdomen binder is put on. 5. An alcoholic compress of folded gauze is placed on nipples and breast, binder applied. 6. After patient is made comfortable she lies on back for eight hours and then on either side. 7. Child is examined for any abnormality that may exist. 8. Eyes irrigated with boric acid (saturated solution). It is then annointed with olive oil. Cord dressed with pad of sterile gauze, saturated with sterile olive oil.

Conclusion. I realize there are many minute details which I haven't given, and that there are many other ways of managing a normal case of labor. I thank you.

WHITESIDE COUNTY

A special meeting was held in Fulton in honor of Dr. Charles A. Griswold, who is the oldest physician in active practice in Whiteside County. Dr. Griswold graduated from Yale Academy in 1852, and later from the College of Physicians and Surgeons of New York. After serving an internship, he proceeded to follow out Greeley's advice to young men and travelled west to Fulton on the Mississippi. He has practiced uninterruptedly in the same city ever since.

After dining in a body at Hotel Martin, the members of the society adjourned to the parlor where a short program was given. "Treatment of Wounds," Dr. David S. Fairchild, Clinton, Iowa; "Report of a Case of Empyema," Dr. W. K. Farley, Fulton. "Reminiscences of Fifty-Five Years of Medical Practice," Dr. C. A. Griswold, Fulton.

REMINISCENCES OF FIFTY-FIVE YEARS OF MEDICAL PRACTICE

CHARLES A. GRISWOLD, M.D.

FULTON, ILL.

Over a half century in active practice in one locality is an epoch in the life of a physician and surgeon.

The passing years we commemorate, are a cycle in the flight of time filled with the grandest possibilities and achievements of the ages in art and science, and the fruitage of genius and research. The genius of man has led captive science for the comfort and convenience of the race compassing the surface of the globe, and delving beneath, over and under its seas, and now making its pathway in its ærial flights in the cerulean above. The forces of Nature which have been harnessed to do the bidding of man seem limitless in their use and application to his needs in developing its hidden secrets and treasures. The possibilities of the past are now realities. The impossible has become the possible. In no department has there been more of scientific progress than in our profession, for the cure of the ills of life and health of the people.

The medical profession holds vantage ground in the profession to-day in its research and achievements. In the humble task of this occasion as we journey along I fain would indulge the hope that some flower may bloom by the wayside,

or some leaf from the foliage of the past, be wafted before you, on which you may find a thought which will waken a response and acceptance as I turn the leaves.

Amid the vicissitudes of human existence it would seem that the most useful and brilliant members of the profession, who have adorned and enriched the annals of medicine by research and discovery, have early crossed "the divide" ere the measure of their usefulness was filled. They lived "in deeds not years." But he who numbers our days, and the end thereof, in those orderings fathomless to human ken, has perchance given to some longer years of life to fill their "destined end and way," and weave into the warp and woof of their experience in practice, the result of those researches and discoveries.

Standing at this hour in the presence of this medical society, bound by professional and fraternal ties and friendships found in the association, whose honors I have received, and in whose social and medical meetings I have long participated, adding an humble part to its proceedings and discoveries and discussions, the echoes of the past come floating down the corridors of time. I touch again the chords of memory spanning the years since I entered the profession. The dial plate of time masking the passing years is suggestive in queries of the past, and what of the future and in the retrospect? The kindest feelings will well up from the heart, and tender emotions I would not suppress. The past is irrevocable, now only a memory to which we turn in reminiscence, a guidance to correct and avoid its mistakes and failures in the future.

Born, educated and trained in New England, lured by the advice, "Go west and grow up with the country," leaving my native heath, I located in Fulton, September, 1856, where has since been my "name and local habitation." Though a stranger in a new environment, to meet with changed habits and customs from early training, I was kindly welcomed by the physicians of the town whose friendship and generous advice and assistance was freely given in introducing me to practice, and acquaintance with the citizens. I soon became acquainted with the leading physicians of the county, happily meeting with two located in an adjoining town, who had preceded me, whom I had met in New York in my last course of lectures, ripening into a pleasant intimacy and association, introducing others of longer experience which was of great advantage in my early practice, as I was the freshman of the coterie. A chance call before I had arranged an office, which proved a valuable asset, opened a lucrative practice assuring me a professional support and good living, though a poor collector and financier, not resulting in sufficient competency to run an automobile, or indulge in a "globe trotter" tour, though living on easy street now.

My early practice was often perilous and fatiguing, called miles in the country in the lonesome darkness of night, over fenceless woods and no roads; across open prairies and bridgeless sloughs without a guide, in emergency cases to operate by the flickering light of a smoky lantern with little assistance or medical aid in call, testing my powers of endurance and medical resources. Doubtless it would now pass for but extemporized surgery, and its technic would properly meet the criticism of my distinguished friend and guest here. But the results I am glad to say were generally good. Attendance upon those events which will occur in all well regulated families when the neighboring women in those days gathered to watch and size up the young doctor, were often annoying, though many ludicrous incidents occurred to relieve the anxieties of the occasion, taxing my temper and resources at times to keep them busy in little unnecessary acts, to divert their meddlesome attention while giving mine to the case.

These first experiences of the young physician left to his own resources, test the practice which the schools cannot give, and are means to future success and skill.

A two years' pupilage as apothecary and student in hospital service was a great aid in my early cases, as the treatment I had learned from my instructors would very opportunely recur to me from the symptoms, giving me calmness and supposed knowledge of the disease, winning the confidence of the patient and friend.

Service as regimental surgeon in the civil war introduced one to a larger experience and varied practice in wounds and injuries, incident to the battle, the diseases of the camp, the exhaustion from forced marches and exposures on the field. Before the advent of adjacent hospitals, as local surgeon, much railroad surgery and injuries fell to my care, which now goes direct to the hospital with better facilities for operations and treatment. When doctors were not so plentiful and near by, I had an extensive obstetric practice, which with occasional epidemics of infectious and contagious diseases made a busy life, often with little time for recreation or study. But with all the worries, anxieties, fatigues and sad scenes the physician meets in his practice happy hours will often intrude to remove gloom, pouring in a flood of sunshine in the desponding heart and a pleasurable side in the gratitude for restored health, and cheered by the happy smiles and joy of maternity. Though sorely grieved and heart-broken when in grief at the loss of a loved one, as Dr. Jackson in his letters to a young physician says, I believe that in the long run the unmerited praise, overbalance the just blame the doctor gets.

The old time physician located in the sparsely settled sections of the country in the early days, the family doctor and mentor during life, trailing his rounds with his cumbersome saddle bags, on horseback or in the "one horse shay" is now but a tradition. Often with an academic education, receiving their medical education in the office and practice of a physician, they were skillful in practice and therapy. Though crude their drugs often as nauseous as effective, in their rides culling from the woodside and fields many herbs and plants, discovering medical properties which have proved valuable contributions to the materia medica, they were pioneers in medicine whose application and study of disease are worthy of emulation.

The physician of to-day sitting in his cosily furnished office, in the society of his books, with all the modern appliances of the profession in touch, receives his calls by telephone, makes his visits in an automobile or trolley car, carrying his medicines in neat pocket or compact hand case; these therapeutic properties elegantly prepared by pharmacists and chemists, sugar coated and palatable for administering, for which the children cry. Fortunate is he returning his visit on the morrow, if he is not displaced by some ubiquitous charlatan with his "cure alls" and pretended skill, whose ignorance is only equaled by his cheek and greed, and his medical education derived from a proprietary almanac. The druggists' shelves are filled with proprietary and patent medicines, guaranteed to cure every known or imagined ailment, from cancer to the ills of maternity. The isms and pathies so rife for gain, numerous as the autumn leaves fill the air with their wonders to perform, while the cultured and uncultured vie in praise of their skill and fill their treasury, belittling the skill and education of the physician while the artisan they employ and trust must be a tradesman trained and skilled in his art and employment.

Last but not least among the anti-medical treatment follows the mental healing insurgents, chief of which is Christian Science, so prevalent, whose dogma is, the ills of life are imaginary, which to borrow a phrase is a "psychologic experiment on the weakness of cultivated minds," and yet from the quackery and medical heresies of the past and present, and their inventions, physicians have derived many active and useful medicines and suggestions. The intelligent and skillful physician and surgeon is ever on the alert to receive suggestions to increase their knowledge, test and apply for more human and skillful treatment from whatever source obtained, whether vaccination which Jenner got from the dairy, or ovariectomy from a French swine-herd, which will increase their professional resources.

Our profession has made rapid strides during these years; more old theories and pathologies from scientific investigations, laboratory research and clinical facts prevalent in their time proven useless as the fabric of dreams, have become obsolete, only found now as curiosities of medical literature in dust covered volumes. Applied science and research in a closer study of the human system have evolved other and more rational theories based on the functions and office of the organized structure.

Anesthesia, the hand maid of the surgeon, has made practical painless surgery and softened the pangs of maternity. Recent investigations in neurology have mapped the brain, localizing special functions and classing the nervous system for their specific part in the human economy, greatly aiding in diagnosis and treatment. The germ theory of disease, toxins, antitoxins, and serums, still matters of research, have thus far thrown a flood of light upon the causes and effects of many diseases of fatal tendency, reducing their mortality to a minimum.

Gynecology in its application in abdominal surgery to the diseases and morbid growths incident to the sex, has achieved much, making life enjoyable and pleasant. Surgery has advanced in leaps and bounds in eliminating and restoring diseased parts of the structure, and with the aid of the *x*-ray searchlight exploring the internal organs, and antiseptic cuts and carves the organs without destroying their functions or the play of the vital forces. The trained physician of to-day, with the recent instruments and appliances, with practiced ear and touch and subjective symptoms, diagnoses most internal diseases with the correctness of a post-mortem. But why repeat what is familiar to all?

In backward turning my gaze rests on the fruitage of these years; may I not say with the aged prophet of old, "These things mine eyes have seen, in which I have borne a part"? The student of my time is lost in the mazes of the curriculum of the medical schools of to-day requiring an academic and technical education to enter, and a lengthened course of instruction. The minutest divisions, effects and symptoms, of disease, traced and outlined by research and clinical study, present too large a field for the general practitioner to become proficient in all, and the specialist takes his place in the profession.

However much we may pride ourselves in the progress and achievements in recent years, much of the *new* is but a return to the *old* in the practice and theories of the earlier physicians, who knew much if they did not know it all. The older volumes on "Theory and Practice" now scarcely known or referred to save by the writers on medicine, are not volunteers, and may be profitably read by the younger physicians for their plain, well expressed, and intelligent description of disease, symptoms, and rational treatment.

In 1794 the celebrated Dr. Benjamin Rush published a book upon the "Open Air Treatment of Tuberculosis," now the favored treatment of that disease meeting with much success. Clinical thermometry, so valuable now in diagnosis, has over a century in years, probably longer. Antiquarian research and the story of Pompeii and Herculaneum have revealed much of ancient medicine and art, now deemed original in its suggestion and application. There are fads and fashions in medicine with their periodical returns, as in the social fabric, though often not as harmless. New remedies have enlarged the materia medica with names pronounceable only in sections, discovered by experiment and the skill of the chemist and pharmacist, some useful in therapy, others inert of therapeutic value in inverse ratio to their cost; placebos to suit the fancies and whims of the comfortably sick, who imagine they are taking medicine, and give eclat to the skill and erudition of the blooming physician, "just cutting his molars," while the older and tried drugs hold their place and are the trusted reliance in serious ills.

The commercialism of the day has permeated the profession, and the ethics and the comity of the older physicians are well nigh forgotten in the shuffle from the Midas touch for the gold.

Nature is the great physician, and in our medication the nearer we keep to assist her reparative processes in disease, the greater will be our skill and success. Such was the teaching of Hippocrates, the Father of Medicine. You may guide a fever in its self limiting processes and crisis; can you stay its course?

REPORT OF A CASE OF EMPYEMA

W. K. FARLEY, M.D.

FULTON, ILL.

Chas. C., aged 21 years, of good habits and in good health up to August, 1894, at which time he gave a history of an attack of scarlet fever. Mother was tubercular and died of sepsis at his birth. About Oct. 1, 1894, I was called and found him suffering with an attack of pleurisy with effusion on the left side. I treated

him with liniments, iodids, counter-irritants, iodin, etc., and he soon made a good recovery by Jan. 1, 1895. Weight 198 pounds. March 4 he had an attack of pneumonia from which he was ill till the ninth day when a crisis came. Treatment consisted of antipyretics, quinin and opiates to relieve the pain and cough. He convalesced satisfactorily until April 6 when he had a chill, dyspnea, and pain in the left side. Dulness and loss of the respiratory murmur over lower left pleural sac led to the diagnosis of empyema which was confirmed by puncture. Drainage was instituted between the sixth and seventh ribs in the axillary line and a copious flow of pus resulted. Symptoms subsided and patient began to eat and get stronger. Later a turn for the worse came and he began to fail rapidly until his weight was only 100 pounds. Irrigations with iodin water were used with no results. Finally I gave him the following prescription on the supposition that he was possibly syphilitic.

R

Hydrarg. Bichloridi	Grains 7
Pot. Iodidi	Drams 7
Syr. Sarsap. Co.	Ounces 7

Sig. 3i t. i. d. in water P. C.

The pleural cavity was irrigated daily with 1-2000 bichlorid solution. In four days he began to improve. The discharge ceased in three weeks and he gained weight. The pleurisy and pneumonia were undoubtedly predisposing factors in this case.

TREATMENT OF WOUNDS

DAVID S. FAIRCHILD, M.D.
CLINTON, IOWA

Accidental surgery or traumatic surgery will fall to the general practitioner in both large and small towns and he should be prepared to meet this kind of work in a proper manner. The wounds inflicted accidentally generally fall to the class of people who are obliged to make their living by daily labor and the time element is of very great importance to them; not only the question of time but also the question of saving parts and restoring them to the best possible function.

I have noticed that the student of medicine has manifested a greater degree of interest in operations of magnitude than in the treatment of injuries such as we have above referred to, and we have also observed that these young men who have gone out to practice with a considerable amount of knowledge of operative technique in abdominal operations and other capital operations, have but little idea apparently of the best and most economic way of treating the class of emergency cases that so often arise. We have found that there is a comparatively small number of men who know how to treat fractures in such a way as to get the best possible results. Shortening and deformity is found where it ought not to be because the Doctor has not studied the mechanics involved in reducing and maintaining fractured bones in place. We have often noticed that wounds are treated in a way that would subject a man to the dangers of malpractice suit if the public understood these matters better themselves, and in fact we are getting some of these cases which are so badly managed that malpractice suits are instituted because of the primary and secondary results which follow these accident cases. In these days, not only must a man work promptly but thoroughly if he expects to rise above the position of an ordinary laboring man and the same is true in regard to the medical profession. If a man enters upon the practice of medicine, he finds that the public insist more and more upon results and more and more upon the work being promptly and skilfully conducted.

We find that the laboring man can afford but short periods of non-productiveness, otherwise he and his family must come to grief. It is for this reason that general practitioners should find it important to study cases that come under their observation with the greatest care and determine as promptly as possible what line of treatment will result in the shortest period of disability. Therefore, on considering the treatment of a wound inflicted accidentally, we shall take time to consider what is best to do to prevent complications which may arise, and restore the part to usefulness as soon as possible. In the first place, all wounds should be examined carefully in order to see what the wound may possibly involve. It sometimes happens that nerves are cut or torn; that tendons are cut and torn. It happens also, especially in cases of incised wounds, that the body of the muscle is partly cut across and that if it is not sutured, the muscle fibers will separate and gap will be filled in with scar tissue which will limit the contracting power of the muscle itself. I have seen a number of cases where the muscle has lost considerable of its power because when the union of the muscle fibers occurred, there was an area of non-contractible scar tissue interposed between the ends of the divided muscle. When the wound has been examined and the surgeon is satisfied as to what it involves, he can then proceed to repair this wound, securing the best results in the shortest period of time. It is unfortunate for the injured person and sometimes unfortunate for the doctor if tendons are severed and not united, thus leaving an important part more or less crippled. The same is true of divided nerves, leaving an area of anesthesia and perhaps paralysis.

One of the secondary things that is often a serious hindrance to prompt recovery is the question of infection. This question seems to be but poorly understood by a considerable proportion of the profession. It not infrequently happens that wounds and the surrounding skin are washed vigorously and even scrubbed with soap and water and then afterwards with the solution of bichlorid and the wound closely united. These wounds, much to the doctor's dismay, often show at the end of two or three days evidences of serious infection which may extend considerably beyond the area of original injury and cause a considerable amount of suffering and a good deal of delay in healing. We have found a very simple way of meeting these conditions which is easily carried out and results most fortunately to all parties concerned. We do not wash out these wounds or the surrounding skin with soap and water or any antiseptic. After the wound has been examined by the doctor who should keep his fingers out of the wound but who may explore the condition of the wound by taking hold of the skin on either side and pulling apart and seeing how deep the wound really is, if he is satisfied that the wound does not involve nerves, tendons, or muscles, he can fill the wound with tincture of iodine and bathe the surrounding skin with tincture of iodine and then apply a dry sterile gauze dressing and leave it undisturbed for several days. Some care should be observed in relation to the use of the tincture of iodine, otherwise there is danger of blistering the parts or irritating them. If the doctor will have at hand a glass stoppered bottle of tincture of iodine reduced one-half by using alcohol, he will possess an antiseptic mixture which can be used with great success and safety. The official tincture of iodine is about 7½ per cent. If this is reduced by dilution of the alcohol to 3½ per cent., he will have a preparation that will not blister and will be efficient in its germicidal properties. The dressings should not be applied until the surface has been dried. If the dressings are applied when the wound and the surrounding skin is still moist from the iodine, confining the tincture by means of the dressing will cause a considerable degree of irritation.

The question of suturing a wound always appeals to the practitioner. I do not think ordinarily that a wound should be sutured but rather the flaps of the wound anchored together by sutures that will leave sufficient space between each to allow the wound to drain so that what is known as wound secretion may escape and thus avoid a focus for germ culture. If the doctor has discovered that tendons or nerves or muscles are divided, it will then be necessary for them to prepare for the reparative operative treatment as he would in a major opera-

tion, so that infection may be avoided. After he has performed the necessary operation in the most careful manner possible, the wound should be wiped with the tincture of iodine as I have already indicated. If there are foreign bodies in the wound, they should be wiped out carefully with dry gauze aided perhaps, if it is necessary, with alcohol. It will be found that if these wounds are first washed out with water or normal salt solution or boric acid solution, that the iodine will not work well. The skin should not even be washed. Such wetting of the skin always favors the blistering of the iodine and destroys its antiseptic effect.

In compound fractures, the greatest care should be observed in the first treatment. The doctor is not justified in putting his finger into any wound of this kind even if he wears sterilized gloves and he should be careful about doing any operation at this time. The skin about the wound should be bathed with tincture of iodine solution and some of it poured into the wound and the fractured parts reduced as well as possible without inflicting any trauma. The doctor need not be worried at this time about the subsequent results and deformity, because after the tissues have regained their powers of resistance, the fractured bones can be reduced completely and fastened in place with some direct bone splint, or by extension, or by any other method that satisfies the doctor will secure a good result without deformity. We have heretofore practiced a different method of reducing fractures and placing the bone in its proper position without regard to traumatizing the tissue. This course of procedure will very greatly favor infection and be very much more likely to produce troublesome future results than leaving the tissues alone when all necrosis or sloughing of the soft parts has ceased and then correct the condition.

The cause of serious infections and perhaps the loss of a limb has no doubt in some cases been due to the zeal on the part of the practitioner to establish ideal conditions at once. This we have found to be a mistake. In regard to scalp wounds, very much bad treatment has been practiced. Wounds have been sutured tightly containing infectious material and sometimes foreign material which has been forced into the wound by the traumatizing influence. It is best in these cases to trim the hair for an inch or two on either side of the laceration wound, and by stretching open the wound by placing the finger on either side and observing whether or not there has been any fracture of the skull. It has sometimes happened that scalp wounds have been sutured tightly with a fractured skull lying underneath. I have seen a number of these cases myself. After the doctor has satisfied himself that there is no fracture of the skull, he may wash out the wound carefully with tincture of iodine and introduce one, two, or three sutures, so as to anchor the flap in near apposition, then wash the surface over with tincture of iodine, letting it dry and then applying a dressing that will stay in place. Almost every doctor has some kind of a dusting powder which he applies, apparently with the idea that these powders have certain healing properties, which they do not have. The idea that should govern every practitioner dealing with these wounds is to place them in the best possible condition for repair to take place and if he has avoided introducing any infection himself and has bathed the wound with a solution of tincture of iodine, he will have accomplished the desired result.

In some lacerations about the hand and foot where a swelling causes great pain, we have found that it relieves the patient very greatly by using hot wet applications, and if the injured parts have been lacerated, in order to prevent infection, they can be frequently mopped out with 60 per cent. alcohol, which will have a decided antiseptic influence in preventing infection. Not infrequently patients come to the doctor with a wound that was infected two or three days or perhaps a week before, and which is now more or less seriously infected. He will find under these circumstances that hot wet dressings will be the most efficient; a hot boric acid solution or what is probably better, a piece of gauze saturated in 60 per cent. alcohol is laid over the part and hot wet dressings applied over that. The hot dressings should be copious and continuous. I do not think it is best to surround the tissues with rubber tissue because it tends to macerate these

tissues and holds the secretion in contact with the wound, which he desires to avoid. These dressings should be changed as soon as they become soiled and often enough to keep them fresh. The question of making free incision in infection wounds should be considered with care. Unless the doctor is satisfied that there is deep seated pus, he had better avoid making these incisions. The effect of incising an infected area unless it is for the elimination of pus is to open new avenues for absorption and increase the severity of local infection and increase the poisons that are liable to be taken up into the system. These infected wounds which are inflicted by nails and splinters of wood and so on that have been in the wound, sometimes carry a very virulent kind of infection and very disastrous results sometimes follow. We find for instance that car repairers, laborers on the track and laborers on the street are liable to a much more severe kind of infection than those working in shops, machine shops, round houses, etc.

DISCUSSION ON PAPERS OF DRS. FAIRCHILD AND FARLEY

Dr. Chas. G. Beard stated that the paper on wound treatment contained much safe, sane, common-sense advice. The use of iodine in his practice was very satisfactory. The old-fashioned habit of scrubbing around a wound with soap and antiseptics generally contaminated it.

Dr. William H. Perry was of the opinion that the common infections were almost always avoided by the measures advised in Dr. Fairchild's paper, but there were two serious and fatal infections which should always be kept in mind, especially where the injury was soiled with street dirt, namely, the gas bacillus and tetanus. Where these infections are liable to be present extreme care should be used to clip out injured tissues and the open treatment followed. Tetanus antitoxin should be thought of always as a prophylactic measure.

Dr. Fairchild, Jr., in closing the discussion stated that the average physician was generally too anxious to do a fine job of suturing on his lacerated wounds. One case came to mind in a foot injury where a most beautiful coaptation was made. Later the wound showed signs of sepsis and on opening it part of a sock was found neatly sewed in the wound. Cases where gas bacillus or tetanus was possible the cautery or phenol and alcohol was advised.

Dr. Farley in closing stated that the early and free drainage of cases of empyema was the secret of success.

WILLIAMSON COUNTY

The Williamson County Medical Society met in regular session Sept. 26, 1911, in the City Hall at Marion, at 1 p. m. The president being absent, Dr. Casey presided. Members present: Drs. Harris, Springs, Galbraith, Casey, C. M. Evans, G. J. Baker, Aird, Hartwell and Parmley. The censors presented the application of Dr. C. M. Evans of Clifford for membership. Dr. Evans was unanimously elected a member of the Williamson County Medical Society. Dr. Parmley read a paper on the "Bad Features of the Present Lax Credit in this Vicinity"; not only that practiced by physicians but merchants as well. The sentiment of the paper was endorsed by every one present, and a very interesting discussion followed.

Some of the evils of the present lax credit system which were pointed out were as follows: This system encourages dishonesty; discourages honest business and professional men who are trying to conduct their business and professions on a conservative basis; it encourages a class of people to indulge in luxuries who really cannot afford the necessities of life. It helps to fill a community with loafers instead of honest workers; it makes it easy for anyone to get in debt and exceedingly hard to get out of debt. It produces more parasites and fewer hosts, and many other evils. Some of the advantages to be derived from a cash basis system were mentioned as follows: The person who is compelled to pay cash for the necessities of life, including food, clothes, fuel, doctor's services, etc., will form the habit of economy. He will very likely indulge less

in luxuries and more in life's necessities. It will prevent many from getting into the habit of consuming more than they can possibly produce. It will make borrowing money one business and buying life's necessities another.

It will put an end to much of the trouble that occurs between the debtor and creditor, involving the constables and collectors. And for the doctor it would give him more time to read and recreate, and to better equip himself for his profession generally.

THE MORAL AND ETHICAL EFFECTS OF THE DISPENSING DOCTOR

DR. I. C. WALKER

"In the beginning there was chaos." God said "Let there be light," and there was light, and under its magic influence Nature began to resolve itself into a systematic cosmos. Elements by virtue of their natural tendencies began to group themselves into molecules—units; each with its own peculiar individuality adapted to exert a special influence in the building up of this material and so-called immaterial world of ours. Thus Nature has taught us a lesson of segregation of species—of the peculiar fitness of special mission of individuality that must be maintained in the evolution of a more perfect specimen of its kind. The healing art is no exception to the rule. The sphere of the physician proper lies in the application of curative agents to disease. Not all of our therapeutic armada is obtainable through the druggist. It is necessary to employ the skill of the dentist, optometrist, the prosthetic artist, all of which are separate and distinct professions to that of the doctor. Has a doctor a moral right to dispense spectacles, teeth, prosthetic supplies and drugs, unless he has mastered the principles of each of these professions? Does the degree of M.D. carry with it the license of the allied professions—the dentist, the embalmer, and the druggist? The province of the doctor is to be able to recognize pathologic conditions as they exist in the human system and to *order* the application of such remedial agents as will, according to his professional judgment, relieve the diseased condition; leaving the grinding of glasses, making of teeth and compounding and dispensing of medicines to the several professions to which they belong.

The practice of physicians dispensing drugs is attended by two great evils:

1. The physician has as a rule a very inadequate little stock of drugs out of which he must prescribe for an innumerable number of human ills; he is therefore tempted to dispense a substitute from his little stock, instead of prescribing the drugs really indicated, from a large well-stocked store operated by a trained pharmacist. This practice tends to curtail the potency of medicinal therapeutics; and further tends to prostrate our noble profession to the level of commercialism.

2. The druggist in retaliation increases his stock of patent nostrums, refills his few prescriptions, and boldly prescribes over the counter, thus decreasing his efficiency as a competent pharmacist.

Which? What? Who is to blame for this formidable imposition on a confiding public? Is it our laws, our druggist or our physicians? This state of affairs fosters charlatans and pathys and throttles efficiency and public confidence.

DISTRICT MEDICAL SOCIETY OF CENTRAL ILLINOIS

The thirty-eighth semi-annual meeting of the District Medical Society was held October 31, 1911, at Pana, Ill., in the G. A. R. Hall. Dr. Frank Buckmaster of Effingham offered the following resolution, which was adopted without negative vote:

WHEREAS, It has come to our knowledge that Governor Deneen has commenced the renovation of the medical department of the state government; therefore be it

Resolved, That he be congratulated in this matter and urged to complete the renovation at the earliest possible moment.

The following program was rendered: "A Short Interrogative Paper," Dr. Amos Sawyer, Hillsboro. "Medical Education from the Standpoint of the Patient," Dr. Carl E. Black, Jacksonville. "The Recently Formed Hospital Section of the American Medical Association," Dr. A. L. Brittin, Athens. "Recent Advances in Infant Feeding and Management," Dr. C. M. Wood, Decatur. "Recent Advances in the Diagnosis of Tuberculosis," Dr. S. E. Munson, Springfield.

Book Notices

VOLUME SEVEN OF THE PRACTICAL MEDICINE SERIES. Chicago Year Book Publishing Co. Single volume, \$1.25. Price of series of ten volumes, \$10.

Several volumes of this series have reached our table, and we can only say that they are held up at a high standard set by the volumes of previous years. They offer to the practitioner at a small figure the best in the various branches which are considered, and we can recommend them to our readers highly.

A TEXT-BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D., Professor of Surgery in University of Pennsylvania, Philadelphia. Sixth edition revised and enlarged with 847 illustrations. W. B. Saunders Company. Price, \$6.50.

Professor Hirst's text-book has gone through ten revisions and reprints since its first appearance in 1898. Professor Hirst's position and learning have enabled him to compile his work of very superior excellence, and it may be safely classed among the most clearly illustrated works on obstetrics which has yet been published.

MODERN SURGERY, GENERAL AND OPERATIVE. By John Chalmers DaCosta, M.D., Professor of Surgery at Jefferson Medical College, Philadelphia. Sixth edition with 966 illustrations. W. B. Saunders Co.

This practical work dedicated to Professor Halsted of Johns Hopkins University, has gone through 20 editions and reprints since it first appeared in 1904. This speaks indeed well for the value of the work, and in fact it gives an accurate idea of the excellent teaching ability of its author. Professor DaCosta has exceptional ability in imparting knowledge to the student, and his volume can be heartily recommended to all thoughtful readers. The price is \$5.50 in cloth.

RECENT STUDIES OF SYPHILIS. Medical Symposium Series No. 2. Second edition, revised. RECENT STUDIES OF CARDIO-VASCULAR DISEASE. Medical Symposium Series No. 2.

The Interstate Medical Journal Company of St. Louis, with offices in the Metropolitan Building, have issued these symposia of articles which have appeared in the *Interstate Medical Journal*, and are disposing of them at the rate of \$1.00 per volume. The studies are strictly up to date and supply information needed by every practitioner in his daily work. The price is \$1.00 per volume, and we can recommend them highly to our readers. A number of the articles are by Illinois men.

MEDICAL ELECTRICITY AND ROENTGEN RAYS, WITH CHAPTERS ON PHOTOTHERAPY AND RADIUM. By Sinclair Tousey, M.D., New York. Containing 750 practical illustrations, sixteen in color. W. B. Saunders Company. Price \$7.00.

Professor Tousey realizes how impossible it is to bring any book on electricity up to date, because of the rapid developments of this science along very important lines. However, this is a systematic attempt to present what has been done and how to do it. All the methods described by the author are available for the practitioner who desires successful results. A considerable use of this work enables us to recommend it in the highest terms, as more nearly giving proper information upon this subject than any work now before the English speaking public.

NEWS OF THE STATE

NEWS

—The Barnes and American Medical College of St. Louis have united.

—The notorious College of Physicians and Surgeons of St. Louis is extinct.

—Dr. Norman Kerr announces the removal of his office to 802 Reliance Bldg., Chicago, Ill.

—Dr. R. J. Grimes, of Jerseyville, expects to leave soon for North Dakota, where he will locate.

—Dr. A. F. E. Schierbaum, a former member of the Madison County Medical Society, is now located at Hebron, North Dakota.

—The Illinois Federation of Women's Clubs declared in favor of a campaign against tuberculosis at its recent meeting at Galesburg.

—Dr. A. C. Armbruster, of Collinsville, is sojourning in the mountains near Hendersonville, North Carolina, for the benefit of his health.

—Dr. R. D. Luster, of Granite City, is the latest victim of the automobile; he cranked the machine, the crank kicked back and broke his right arm above the wrist.

—The Granite City Hospital, now in charge of the Sisters of St. Francis, will hereafter be known as St. Elizabeth Hospital, and was opened for the reception of patients October 15.

—Dr. John H. Miller, of Pana, was elected president at the seventeenth annual meeting of the Big Four Railway Surgeons, held October 3, and Dr. John C. Epperson, of Kansas, Ill., vice-president.

—Dr. Archibald Church, a neurologist of Chicago, who was called to Cincinnati professionally, November 13, gave the Academy the benefit of his experience with salvarsan in the treatment of tabes and paresis, at the close of the meeting.

—The State Board of Health announced at its meeting held in Chicago, October 25, that it had revoked the certificate of Dr. Haldane Clemenson, who is serving a life sentence in the state penitentiary at Joliet for the murder of his wife.

—The Clinical Congress of Physicians and Surgeons of North America was held in Philadelphia, November 7-11. One thousand paid \$5; three hundred did not register; 200 Philadelphians attended, and twenty-four hospitals gave clinics. About forty from Illinois attended. The desire of medical men for real instruction was again demonstrated.

—At a meeting of the Evanston Branch of the Chicago Medical Society and physicians of Evanston and the North Shore, October 27, the forty-six physicians present pledged themselves to assist in the organization of a contagious disease hospital for the use of that territory, to be open to patients from all the north shore towns and as far north as the Cook County line. Drs. Stephen D. Balderson, Evanston, Alice Brown, Winnetka, R. B. Stolp, Kenilworth and George Haskins, Wilmette, were appointed temporary officers of the Contagious Disease Hospital Association and were directed to formulate plans for a permanent organization.

WANT TO TAKE A BOY TO REAR?

The White Hall Orphans' Home Society has nine healthy boys to place in good family homes, to be reared as members of families. No one can do a greater thing than to rear a child or children. These boys, now in the Home, are all right mentally as well as physically, and with possibly one or two exceptions, easily controlled. The farmers realize the difficulty of getting competent help and tenants. No reason why every one of these nine boys, now in the Home, will not be competent farmers, in a few years, if properly schooled and trained to work. This society places children subject to approval. You may be interested to know that the White Hall Society placed children in 107 family homes in 1910; up to date this year it has placed 120 children. Nineteen hundred eleven is a record-breaker for good work. Since this society was organized, nine years ago, it has received seven children from Sangamon County and placed ten in the county during the same interval. In conclusion, permit the society to urge you to come at once and see these boys, if you wish to take one or more of them on trial, with a view to rearing. These boys' ages range from 6 to 12 years. For further particulars, address W. J. Roberts, Superintendent, White Hall, Ill.

PERSONAL

Dr. Simon S. Wilcox, an aged physician of Hutton, fell in his barn November 3, fracturing two ribs.

Dr. Hiram J. Smith, of the Medical Staff of the Elgin Hospital, has been appointed assistant superintendent of the Watertown State Hospital.

REMOVALS

Dr. J. B. Liston, of Shipman, has removed to Carlinville.

Dr. R. C. Berry has removed from Vandalia to Vernon, Ill.

Dr. O. T. Hudson has removed from Menard, to Mounds, Ill.

Dr. G. B. Borman has removed from Metropolis to Roselle, Ill.

Dr. C. D. Simmons has removed from Geneva, Ill., to Teutopolis, Ill.

Dr. John R. Farthing has removed from Marine, Ill., to Chicago, Ill.

Dr. J. H. Cromwell has removed from Altona, Ill., to Gooding, Idaho.

Dr. Carl D. Booth, of Macomb, Ill., has removed to Cheyenne Wells, Colorado.

Dr. J. F. Hadden, of 555 120th street, Chicago, has removed to 1547 Glendale place, R. F. D., Los Angeles, California.

PUBLIC HEALTH

—The cartoon presented in this issue of the *Bulletin* calls attention, in a forceful way, to the importance of the proper nutrition, along with the education of the child. Nothing is more true than the fact that a

growing, learning child should be properly nourished. It is in a sense, the health side of the food question. Under no circumstances should health be sacrificed to education. That there should be underfed school children is a reproach to a Christian civilization. And it is well said that a wise community will safeguard its future well-being by recognizing all its obligations to its school children.—From *Bulletin Chicago Dept. of Health*, Nov. 18, 1911.

—*The Bulletin of the Chicago Department of Health*, November 11, speaks of the unnecessary deaths from diphtheria in Chicago. During the week ending November 11, there were twenty-one deaths from this cause, and in the previous week there were twenty-five deaths. The Department calls attention to the fact that there is not likely to be a decrease in the mortality from this cause so long as parents persist in neglecting sore throats in their children, and physicians are lax in reporting cases and the administration of antitoxin. In view of the fact that the state is now furnishing antitoxin free for those who are unable to pay for it, no child need die from this cause for lack of proper treatment. There are at present thirty-four state free antitoxin stations in Chicago. (While deaths from diphtheria are always deplorable the condition in Chicago is not especially alarming. During the four weeks ending November 18, last, there were eighty-six deaths as compared with 106 deaths in the corresponding period in 1910, and eighty-five deaths in the corresponding period of 1909.)

—During the present week, the meetings of the second annual session of the American Association for the Study and Prevention of Infant Mortality have been held at the Hotel La Salle. The opening meeting of the sessions was held Thursday evening, the opening address being delivered by President Charles R. Henderson; other speakers were Dr. George B. Young, Commissioner of Health, who spoke on "Municipal Measures Against Infant Mortality in Chicago," Dr. Hastings H. Hart, director Department Child Helping, Russell Sage Foundation, New York City. The meetings of the various sections held during the three days' sessions were well attended and were especially helpful.

The Friday morning meeting of the Section on Eugenics attracted more people than were able to get into the rooms. The meeting of the Section on Housing, held also on the same morning, was well attended, Mr. Lawrence Veiller, Secretary and Director of the National Housing Association, President. Papers read were, "Privy Vaults and Fly Infection," by Dr. Alice W. Hamilton, of Chicago, and "The Relation Between Bad Ventilation and Infant Mortality," by Prof. C. E. A. Winslow, of the College of the City of New York. Professor Winslow asserted that from 15 to 30 per cent. of the infant deaths were due to the "bad-air diseases," though complete statistical evidence was lacking. Lack of space forbids anything like a review of the proceedings of the many meetings held during the three days' session of the Association; but the Department would call attention to the far-reaching value and influence of the gatherings as an educational factor in the movement for the conservation of the child life of the nation.

It is to be regretted that such meetings cannot be held at least once a year in every large city in the Union.

The objects of the Association are:

The study of infant mortality in all its relations. The dissemination of knowledge concerning the causes of infant mortality.

The encouragement of methods for the prevention of infant mortality.

Among the measures which experience has shown to be effective in reducing infant mortality are the following:

- I. The prompt registration of births to secure:
 - a. Reliable statements of infant mortality in relation to the number of births; the mode of statement employed in other countries.
 - b. The earliest possible chance to prevent certain infantile diseases and blindness.
- II. The improvement of social conditions.
- III. The public control of sources of infection.
- IV. Education for parenthood.
- V. The education of mothers in the essentials of personal hygiene and of infant feeding.
- VI. The encouragement of maternal nursing.
- VII. The establishment of milk stations for the sale or the distribution of clean milk.

In the United States the deaths of babies less than a year old constitute one-fifth of the total mortality. Here are the figures for the "Registration Area" from the latest report of the Bureau of the Census (Bulletin 108, 1910):

All ages	732,538
Under one year.....	140,057

In estimating the mortality for the whole country, it must be remembered that the "Registration Area" for the period reported on, housed only 55.3 per cent. of the population.

This Association believes that the present excessive infantile death-rate can be cut down at least one-half. It realizes that the first step in any campaign of prevention is the creation of a healthy enlightened public sentiment. To this end it invites all who are interested in this great work of saving the babies to join in the movement.—From *Bulletin Chicago Dept. of Health*, Nov. 18, 1911.

MARRIAGES

WILLIAM B. KUNZE, M.D., to Miss Eugenia Elmer, both of Belleville, Ill., October 18.

OSCAR PAUL CHESTER, M.D., to Miss Florence Cathryn Griffin, both of Chicago, October 18.

BRADY D. EPLING, M.D., Petersburg, Ill., to Miss Louise Greene of Petersburg, Nov. 2, 1911.

VICTOR DARWIN THOMAS, M.D., of Elliot, Ill., to Miss Edith Eunice Von Solen of St. Paul, Minn.

WILLIAM PLUMER, M.D., Farmington, Ill., to Miss Pearl C. Winters of Pittsburgh, Pa., September 25.

JESSE R. KAUFFMAN, M.D., Blue Island, Ill., to Miss Alice Jane Rondthaler of Chicago, October 12.

HARRISON C. PUTMAN, M.D., Canton, Ill., to Miss Nellie A. Hanlon of San Antonio, Texas, Oct. 18, 1911.

DAVID BARTON PENNIMAN, M.D., Argyle, Ill., to Miss Fannie Littell Rudgers of Montclair, N. J., October 4.

WHEDON W. MERCER, M.D., Washington, Ill., to Miss Kathryn J. Giblin of Kankakee, Ill., September 20.

HARRY V. THOMAS, M.D., Chillicothe, Ill., to Miss Jane Neff of Oklahoma City, Okla., at Kansas City, Mo., October 15.

DEATHS

HARMAN YERKES LONGACRE, M.D., University of Michigan, Ann Arbor, 1876; died at his home in St. Charles, Ill., October 18, from hemorrhage, aged 56.

GEORGE WASHINGTON SMITH, M.D., College of Physicians and Surgeons, Chicago, 1902; died at his home in that city, October 2, from phlebitis and cardiac dilatation following pleurisy, aged 46.

BENJAMIN BRINDLEY EADS, M.D., Jefferson Medical College, 1891; a member of the American Medical Association; a member of the surgical staff of Cook County Hospital and Illinois Hospital Dispensary; died at his home in Chicago, November 10, from nephritis, aged 41.

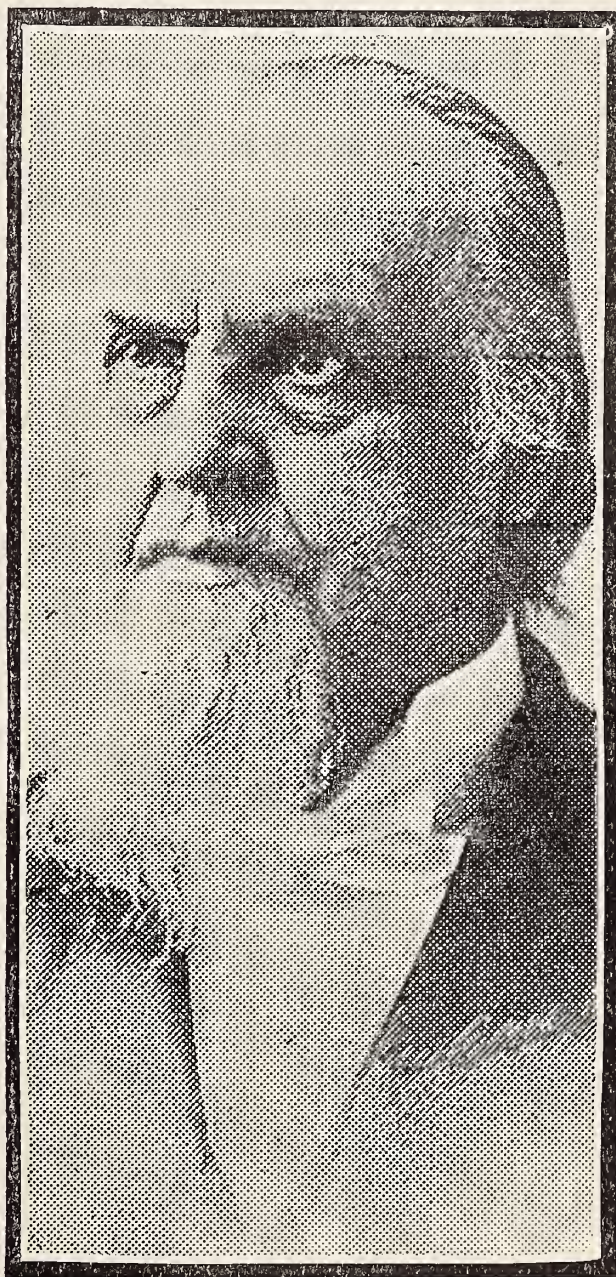
O. H. MANN, M.D., last president of the village of Evanston, and first mayor of the city of Evanston, died Oct. 26, 1911, at his residence in Evanston. Members of the Masonic Lodge, the city council, and a squad of police escorted the remains to Rose Hill Cemetery where burial took place.

WILLIAM BROWN MARTIN, M.D., Rush Medical College, 1888; a member of the American Medical Association; died at his home in Sherard, Ill., November 3, from the effects of an incised wound of the throat, self-inflicted it is believed with suicidal intent, while temporarily insane, aged 51.

HENRY P. MERRIMAN, M.D., Chicago Medical College, 1865; a member of the Illinois State Medical Society, Chicago Gynecological Society and Chicago Physicians Club; at one time a member of the faculty of Rush Medical College; for forty years a practitioner of Chicago; died at his home in Santa Barbara, Cal., October 18, aged 73.

ALSEPHUS T. ROBERTSON, M.D., Jefferson Medical College, 1861; formerly a school teacher in the Choctaw Nation, but since 1864 a resident of Ashmore, Ill.; for ten years town clerk and also police magistrate, supervisor and a member of the local board of U. S. pension examiners; died at the home of his son in Denver, September, from chronic gastritis, aged 77.

JOHN HAMILCAR HOLLISTER, M.D., of Chicago, died at the home of his sister in Redlands, Cal., November 13, in his 88th year. Dr. Hollister was born in New York State, graduated at the Berkshire Medical College, Pittsfield, Mass., in 1847; practiced for eight years in Michigan, and in 1855 moved to Chicago. He was at first connected with Rush Medical College, but on the organization of the new school in 1856, he became one of the founders, and remained connected with the college, now the Northwestern University Medical School, until the time of his death. He was active in journalistic and society circles; at one time



editor of *The Journal of the American Medical Association*, and of the *North American Practitioner*. He was a trustee of the American Medical Association for eight years; he served as president of the Illinois State Medical Society in 1875, and was treasurer for twenty years, his term of service lasting from 1863 to 1883. He was contract surgeon during the Civil War, serving at Camp Douglas, Chicago. He retired from active practice in 1900, but never relinquished his regard and interest in the medical profession; only a few months ago he contributed an interesting article to the ILLINOIS MEDICAL JOURNAL. No more lovable

character was ever connected with the Illinois profession than Dr. Hollister. The last meeting he attended was the one at Rockford in 1907, on which occasion a complimentary dinner was given in honor of himself and several other of the old members of the State Society.

SAMUEL L. CHEANEY, M.D. (License Illinois Army Board, 1862; Illinois State Board of Health, years of practice, 1880); a practitioner since 1858; assistant surgeon and later surgeon of the Twenty-Ninth Volunteer Infantry during the Civil War; for many years a leading practitioner of Harrisburg, Saline County, Ill., and State Senator in 1878; died at the home of relatives at Henderson, Ky., August 27, aged 76.

JOHN BRADLEY CRANDALL, M.D., University of Vermont, 1862; a member of the American Medical Association and formerly president and secretary of the Rock River Valley (Ill.) Medical Association; assistant surgeon of the Thirteenth Vermont Volunteer Infantry during the Civil War and on duty at the Baxter and Sloan General Hospitals; a member of the Chicago Commandery of the Loyal Legion; died at his home in Sterling, Ill., October 21, aged 71.

JOHN H. BREEDEN, M.D., of Ipava, died Oct. 25, 1911, aged nearly 77. Dr. Breeden was born in Indiana, removed at an early age to Illinois; graduated at Rush in 1856; began to practice at Summum in 1857, where he continued as one of the most successful physicians in Fulton County, for more than forty years. Having secured competency by hard work he removed to Ipava, and devoted himself to the management of his large business interests, and to his church. Dr. H. O. Breeden of California is among the survivors.

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